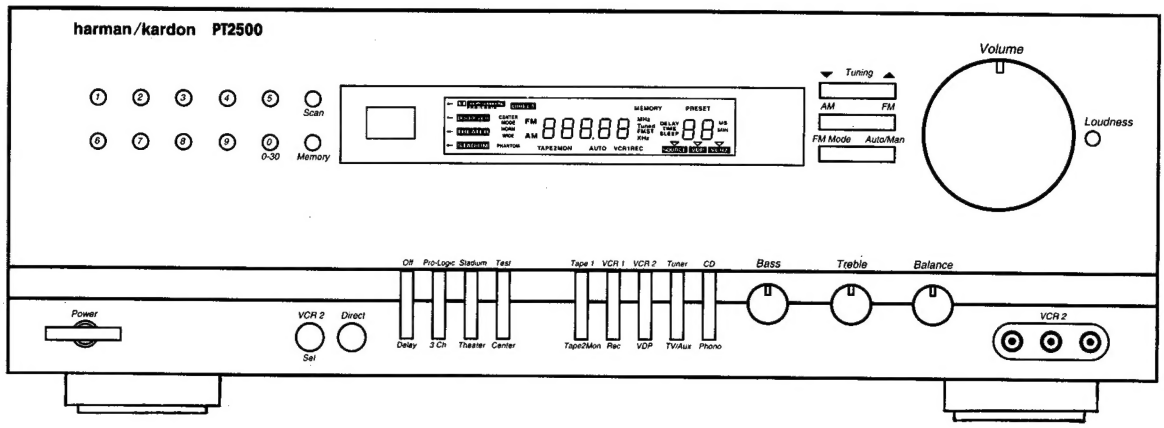
The Harman Kardon
Model PT2500

Manual A

A/V SURROUND TUNER CONTROLLER

Technical Manual



■ CONTENTS ■

harman/kardon

Parts and Service Office
80 Crossways Park West, Woodbury, N.Y. 11797
1112-PT2500 G9711 1200 Printed in Korea

SPECIFICATIONS

⊙ FRONT AMP SECTION

	Normal	Limit
RMS Pre-output		
Both Channels Driven at 20 Hz - 20 kHz	1±0.2 V	1±0.3 V
THD (20 Hz - 20 kHz) at 1 V output		
20 Hz	≤0.09%	≤0.2%
1 kHz	≤0.09%	≤0.2%
20 kHz	≤0.09%	≤0.2%
Input Sensitivity at 65 W, 8 ohms		
PHONO (MM)	2.5±0.2 mV	2.5±0.3 mV
CD, AUX, VCR	150±30 mV	150±40 mV
S/N Ratio Input Shorted at Volume Max.		
(WTD IHF-A) at 1 V output		
PHONO	≥70 dB	≥65 dB
CD, AUX	≥91 dB	≥88 dB
TV, VCR1,2	≥91 dB	≥88 dB
Phono Overload at 1 kHz, THD: 0.5%		
Phono Input→Tape Monitor Output	≥140 mV	≥120 mV
Phono Equalization (RIAA 30 Hz - 15 kHz)		
Tape Monitor Output	RIAA±1.0 dB	RIAA±2.0 dB
Tone Control		
Bass: 100 Hz	±10±1.0 dB	±10±2.0 dB
Treble: 10 kHz	±10±1.0 dB	±10±2.0 dB
Loudness Contour at -40 dB		
100 Hz	+6±2.0 dB	+6±3.0 dB
10 kHz	+3±2.0 dB	+3±3.0 dB
Frequency Response		
CD/AUX		
20 Hz, 20 kHz	± 1.0 dB	± 2.0 dB
Channel Crosstalk Input Shorted at 1 V output		
1 kHz	≥50 dB	≥45 dB
10 kHz	≥45 dB	≥37 dB

⊙ CENTER AMP SECTION

	Normal	Limit
RMS Pre-output		
Only Center Channel Driven	1±0.2 V	1±0.3 V
S/N Ratio		
Input Shorted, IHF-A WTD	≥75 dB	≥68 dB
Frequency Response at -3 dB		
Normal	130 Hz - 20 kHz	180 Hz - 15 kHz
Wide	50 Hz - 20 kHz	60 Hz - 15 kHz

⊙ REAR AMP SECTION

	Normal	Limit
RMS Pre-output		
Both Rear Channels Driven	1±0.2 V	1±0.3 V
S/N Ratio (Input Shorted, IHF-A WTD)		
Dolby	≥65 dB	≥57 dB
Stadium	≥65 dB	≥57 dB
Theater	≥65 dB	≥57 dB
Frequency Response at -3 dB		
8 ohms, Dolby Pro-Logic	100 Hz - 6 kHz	120 Hz - 5 kHz

⊙ VIDEO AMP SECTION

	Normal	Limit
Input Sensitivity/Impedance		
VCR1, VCR2, VDP	1 V_{P-P}/75 Ω	±0.5 dB
Output Level/Impedance		
VCR1, REC out, TV Monitor out	1 V_{P-P}/75 Ω ±0.3	±1.0 dB
Frequency Response at -3 dB	DC-10 MHz	5 - 6 MHz
Crosstalk at 1.0 MHz	≥50 dB	≥43 dB

⊙ FM SECTION

	Normal	Limit
Tuning Cover Range		
75 kHz DEV.	87.5 - 108.0 MHz	
Usable Sensitivity (75 ohms Input)		
30 dB S/N	≤11.2 dbf	≤17.2 dbf
Image Rejection (at 106 MHz)	≥60 dB	≥55 dB
IF Rejection (at 90 MHz)	≥110 dB	≥100 dB
Full Limiting (at -3 dB)	≤12.2 dbf	≤15.2 dbf
50 dB Quieting Sensitivity (at 98.1 MHz, 100% MOD.)		
IHF Band Pass Filter		
Mono	≤19.2 dbf	≤23.2 dbf
Stereo:	≤40.2 dbf	≤43.2 dbf
Distortion (1 kHz, 100% MOD. at 98.1 MHz)		
IHF Band Pass Filter		
Mono	≤0.2%	≤0.5%
Stereo	≤0.4%	≤0.8%
S/N Ratio (1 mV Input, 100% MOD. at 98.1 MHz)		
IHF Band Pass Filter		
Mono	≥70 dB	≥63 dB
Stereo	≥65 dB	≥57 dB
Frequency Response (at +1 dB, -3 dB)	20 Hz - 15 kHz	50 Hz - 15 kHz
AM Rejection Ratio (100 uV - 20 mV Input)	≥60 dB	≥50 dB
Search Level (at 98.1 MHz)	31.2±3 dbf	31.2±6 dbf
Automatic Stereo Threshold (at 98.1 MHz)	31.2±3 dbf	31.2±6 dbf
Muting Threshold (at 98.1 MHz)	31.2±3 dbf	31.2±6 dbf
Overload at 98.1 MHz		
(100% MOD. 100 mV RF Input)	≤0.2%	≤0.5%
Spurious Response (at 98.1 MHz)		
Antenna Input 3 uV	≥70 dB	≥60 dB
Capture Ratio at 40/60 dbf	≤2 dB	≤3 dB
Alternative Channel Selectivity (at 98.1 MHz ±400 kHz)	≥65 dB	≥55 dB
Stereo Separation (at 98.1 MHz, 100% MOD., 1 mV Input)		
IHF Band Pass Filter		
100 Hz	≥40 dB	≥33 dB
1 kHz	≥45 dB	≥38 dB
10 kHz	≥35 dB	≥28 dB
Output Voltage (at 100% MOD., 1 kHz Input)		
Mono	500 ±100 mV	500 ±150 mV
Stereo	450 ±100 mV	450 ±150 mV

⊙ AM SECTION

	Normal	Limit
Tuning Cover Range		
10 kHz Step	520 - 1710 kHz	
Usable Sensitivity (400 Hz, 30% MOD., S/N 20 dB)	≤500 uV/m	≤800 uV/m
Image Rejection (at 1400 kHz)	≥35 dB	≥30 dB
IF Rejection (at 600 kHz)	≥60 dB	≥50 dB
AGC Figure of Merit (From 100 mV/m at 1000 kHz)	≥50 dB	≥43 dB
Distortion (400 Hz, 30% MOD. 5 mV/m Input)	≤0.8%	≤1.5%
IF Bandwidth (6 dB Down, 350 uV/m)	5 - 8 kHz	4 - 9 kHz
Audio Response (5 mV/m Input 1 kHz 0 dB, 1000 kHz)		
at -6 dB	80 Hz - 2.3 kHz	100 Hz - 2 kHz
Selectivity (at 350 uV/m)		
±10 kHz	≥25 dB	≥20 dB
S/N Ratio (1000 kHz, With Antenna Input 5 mV/m)	≥45 dB	≥38 dB
RF Overload (400 Hz 80% MOD, 100 mV/m Input)	≤5%	≤10%
Search Level (at 1000 kHz)	800 uV±4 dB	800 uV±6 dB
Output Voltage (400 Hz 30% MOD., 5 mV/m Input)	165 ±30 mV	165 ±50 mV
Whistle	≤7%	≤12%

⊙ GENERAL

Power Consumption;

23 W

Power Supplies;

AC 120 V, 60 Hz

Dimensions (W × H × D);

inches	$17^{3/8} \times 6^{1/8} \times 16^{1/2}$
mm	440 × 155 × 420
Weight (lbs/kgs)	19.5 / 8.8

These specifications are service target specs.
Specifications and components are subject to change without notice.
Overall performance will be maintained or improved.

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some fieldeffect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handing any semiconductor component or semiconductor-equipped assembly. drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charge sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of a replacement ES device. touch the protective material to the chassis or circuit assembly into which the device will be installed.

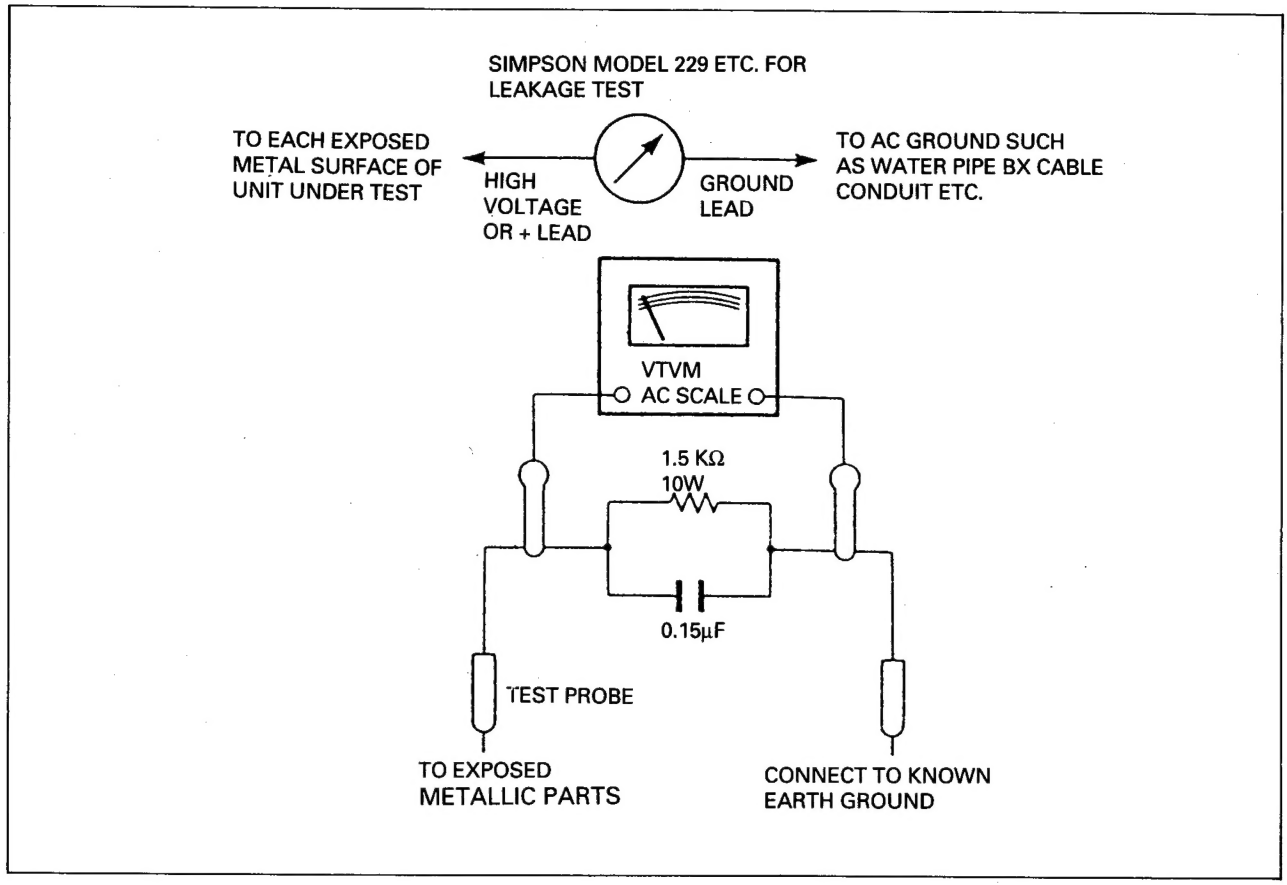
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpacked replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

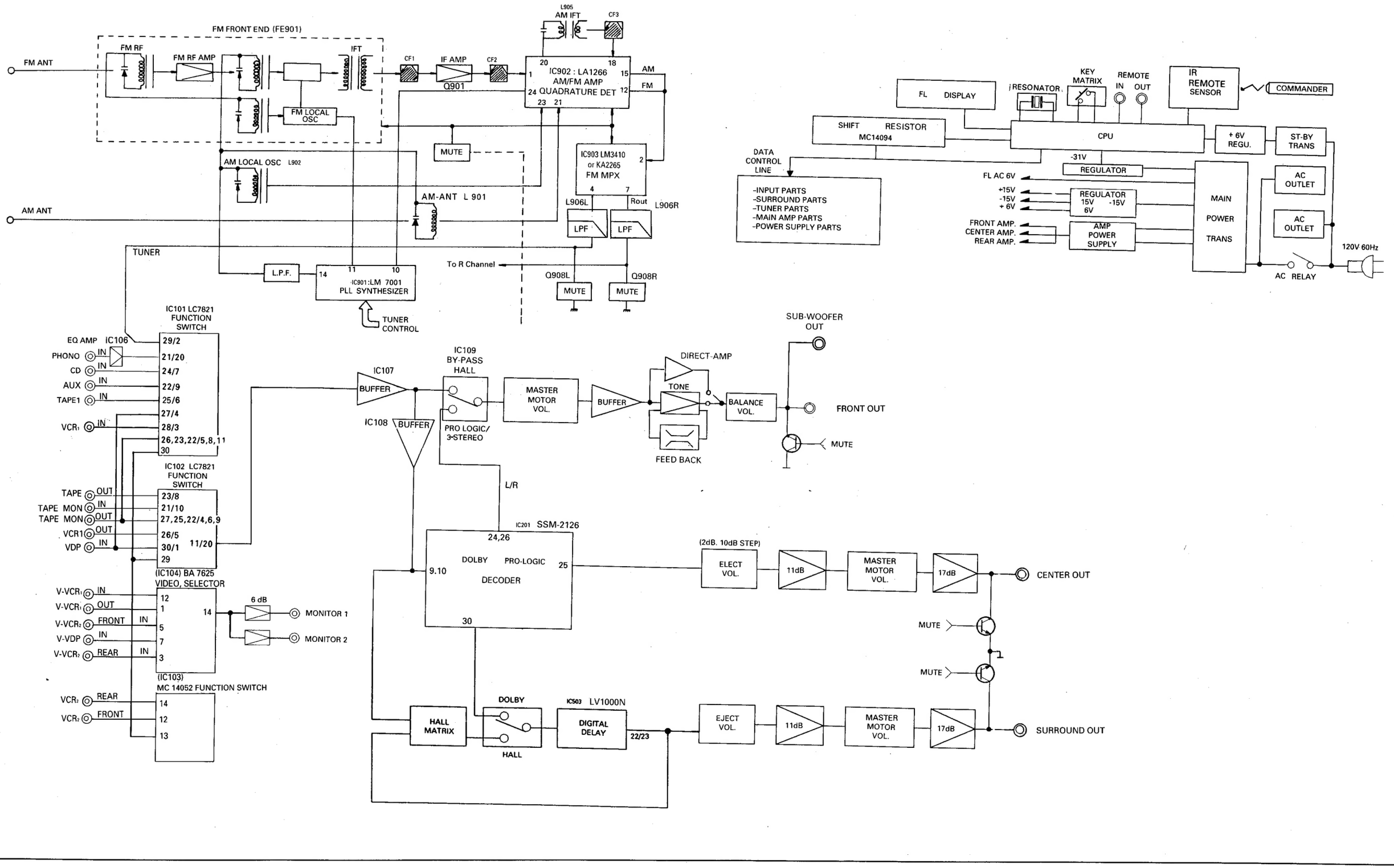
LEAKAGE TEST

Before returning the unit to the user, perform the following safety checks:

1. Inspect all lead dress to makes certain that leads are not pinched or that hardware is not lodged between the chassis and other metallic parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. Which were removed for servicing are properly reinstalled.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows: Plug the power cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 Ohm, 10-watt resistor paralleled by a 0.15µF capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.)
   A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.



BLOCK DIAGRAM



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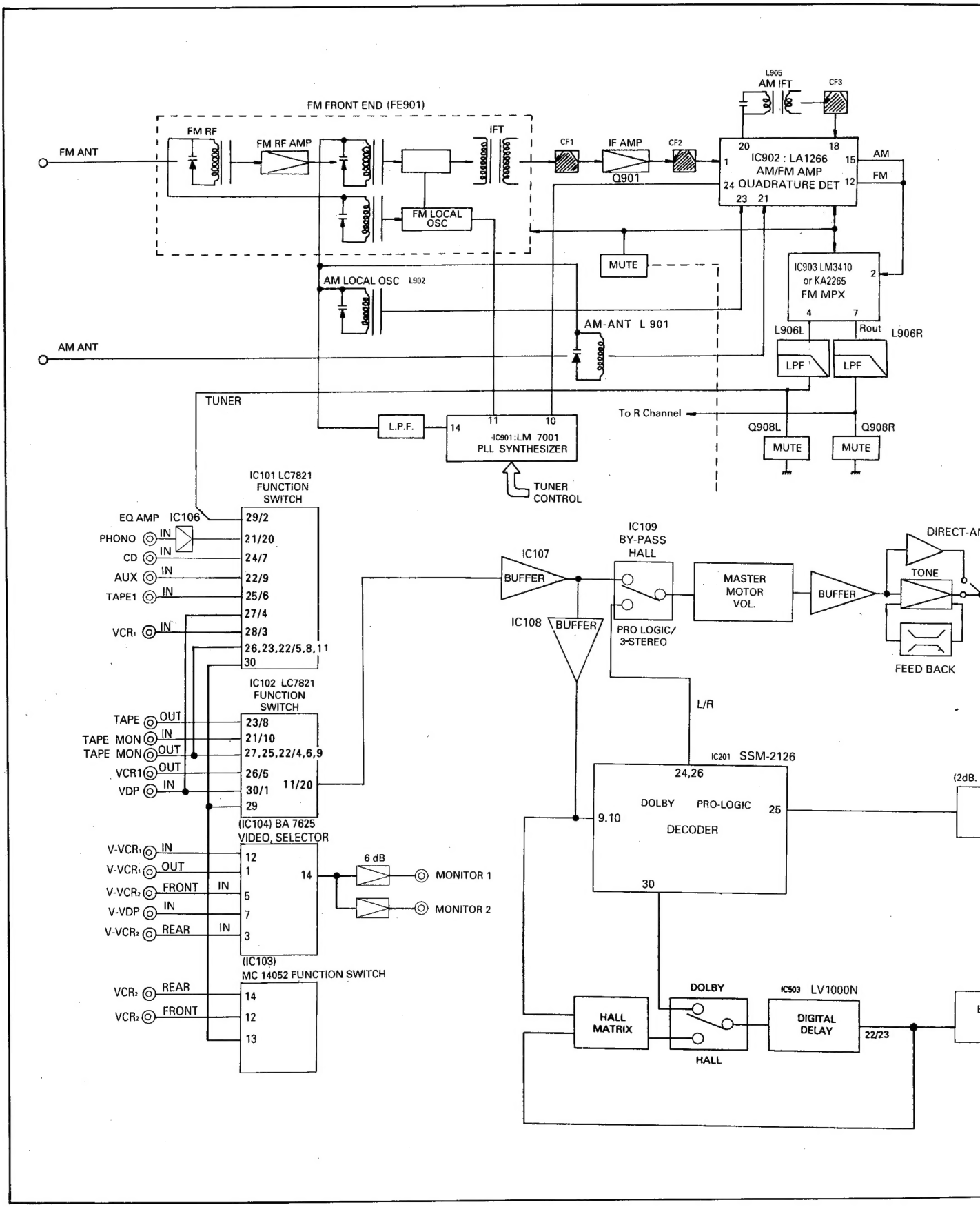
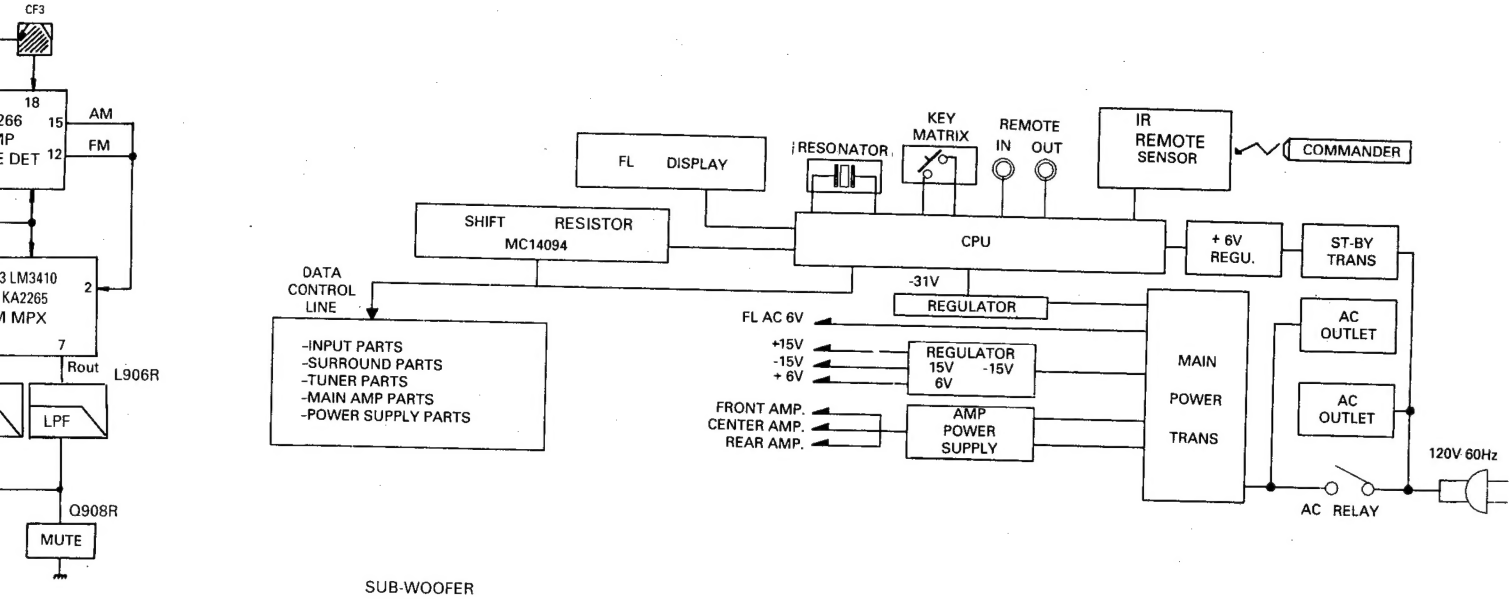
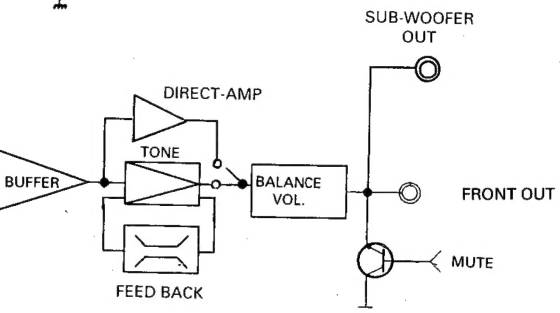
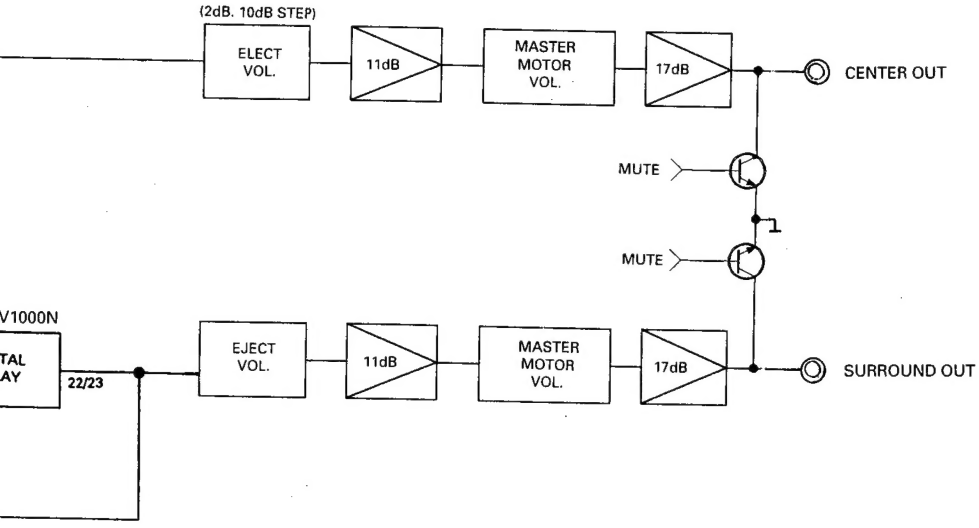
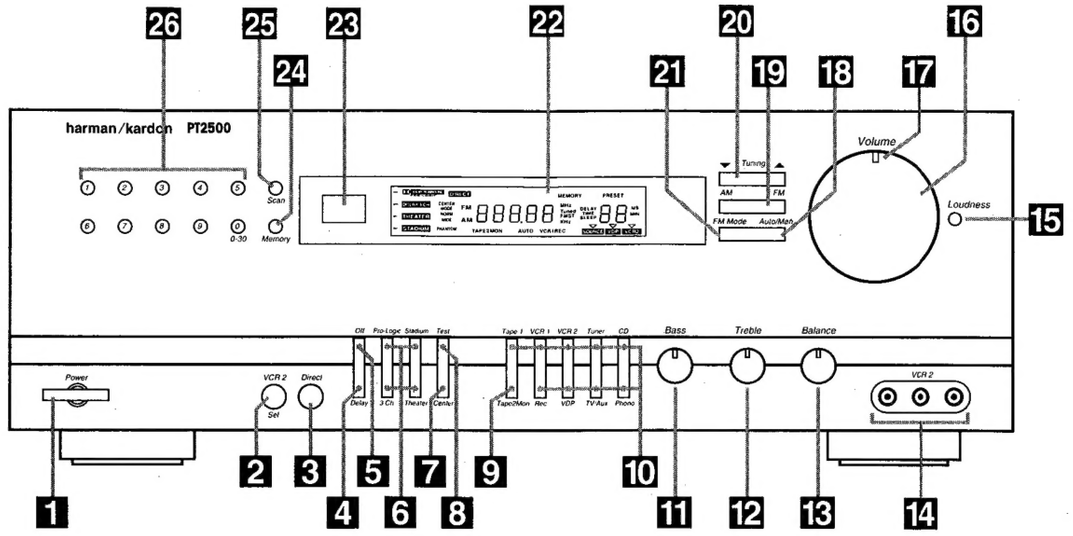



CF3
18
15
12
AM
FM
DET
LM3410
KA2265
MPX
2
7
Rout
L906R
LPF
Q908R
MUTE
FL DISPLAY
RESONATOR
KEY MATRIX
REMOTE IN
OUT
IR REMOTE SENSOR
COMMANDER
SHIFT RESISTOR MC14094
CPU
+ 6V REGU.
ST-BY TRANS
DATA CONTROL LINE
-INPUT PARTS
-SURROUND PARTS
-TUNER PARTS
-MAIN AMP PARTS
-POWER SUPPLY PARTS
-31V
REGULATOR
FL AC 6V
+15V
-15V
+ 6V
REGULATOR 15V -15V 6V
FRONT AMP.
CENTER AMP.
REAR AMP.
AMP POWER SUPPLY
MAIN POWER TRANS
AC OUTLET
AC OUTLET
120V 60Hz
AC RELAY


SUB-WOOFER OUT
DIRECT-AMP
TONE
BUFFER
BALANCE VOL.
FRONT OUT
MUTE
FEED BACK


(2dB. 10dB STEP)
ELECT VOL.
11dB
MASTER MOTOR VOL.
17dB
CENTER OUT
MUTE
MUTE
V1000N
TAL
AY
22/23
EJECT VOL.
11dB
MASTER MOTOR VOL.
17dB
SURROUND OUT

CONTROLS AND FUNCTIONS



1 Power Switch: Press this button to turn the PT2500 on or off. In order to use the power button on the remote this power switch must be pressed once and left in the "standby" mode. Note that a green indicator around the switch will illuminate when the unit is on, and an orange "standby" indicator will illuminate when the unit has been turned off using the remote control.

2 VCR2 Selector: Press this button to select the front panel VCR2 inputs rather than the rear panel inputs.

3 Direct Input Selector: Press this button to select direct input to the preamp circuits, bypassing all tone controls and surround processing. When this feature is activated, the DIRECT indicator illuminates within the information display.

4 Delay Time Adjust: Press this button to adjust the delay time between the front and rear channels.

5 Surround Off: Press this button to select conventional two channel stereo reproduction and to cancel surround processing.

6 Surround Mode Selectors: Press one of these buttons to select a surround processing mode.

7 Center Channel Mode Selector: Press this button to change the center channel mode.

8 Test Mode Selector: Press this button to place the unit in the Test mode for adjustment of system output levels.

9 Tape 2 Monitor: Press this button to monitor the output of the tape deck connected to the Tape 2 Inputs. For normal operation this control should be in the off position.

10 Input Selectors: Press one of these buttons to select an input source.

11 Bass Control: Turn this control to adjust the low frequency output of the left/right channels by as much as ±10dB. Set this control to a suitable position for your taste and room acoustics.

12 Treble Control: Turn this control to adjust the high frequency output of the left/right channels by as much as ±10dB. Set this control to a suitable position for your taste and room acoustics.

13 Balance Control: Turn this control to change the relative volume for the front left/right channels.

NOTE: For normal operation of the surround modes this control should be at the midpoint, or "12 O'clock" position.

14 VCR2 Inputs: This alternate set of VCR2 Inputs may be used for the connection of a camcorder or video game. Select this input by pressing the **VCR2** button **2** on the front panel.

15 Loudness Button: Press this button when listening at low levels to activate special circuits that compensate for the response of the human ear at lower volumes. In the off position the unit will provide flat frequency response.

16 Volume Control: Rotate this control to raise or lower the volume. Note that this is a motorized control, and when the volume is changed using the remote control ⓮ it will move in response to remote commands.

17 Mute/Volume Indicator: In normal operation this green LED provides a relative indication of the unit's volume level. When the PT2500 is in the MUTE mode, this indicator flashes to remind you that output to the speakers has momentarily been silenced.

18 Auto/Man Selector: Press this button to select AUTO or MANUAL tuning. In the AUTO mode the tuner will stop only at stations with a strong signal. In the MANUAL mode the tuner will step in 50 kHz increments for FM and 10 kHz increments for AM.

19 AM/FM Selector: Press this button to select AM or FM stations.

20 Up/Down Tuning Button: Press the left side ▼ of the button to tune lower frequency stations and the right side ▲ of the button to tune higher frequency stations. When a station with a strong frequency is tuned, the TUNED indicator will illuminate in the Information Display **22**.

21 FM Mode: Press this button to select the stereo or mono mode for FM tuning. In the STEREO mode an FM ST indicator will illuminate in the information display, and stereo reception will be provided when stations are transmitting stereo signals. In the MONO mode the left and right signals from stereo broadcasts will be mixed together and reproduced through all channels. Select the MONO mode for better reception of weak signals.

22 Information Display: The indicators in this display illuminate to provide visual display of the unit's operation.

23 Remote Sensor: This sensor receives the signals from the remote control to operate the unit. Do not block this area.

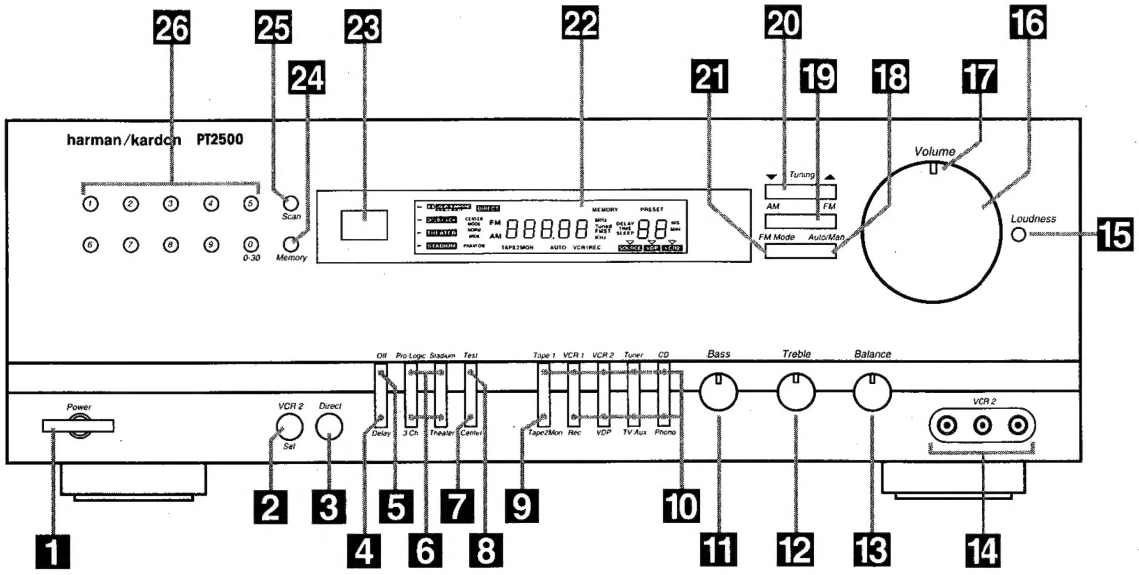
24 Tuner Memory Button: Press this button to store an AM or FM frequency in the unit's memory. The MEMORY indicator will flash in the display to remind you to choose a numeric location using **Numeric Buttons** on the front panel or remote (**26** ❹). Press this button a second time to complete the memorization process. Storing a station in a memory location that has already been used will overwrite the existing data.

NOTE: The preset memories are protected from power loss for two weeks. If the unit is unplugged for more than two weeks all stored frequencies will be erased.

25 Preset Scan Button: Press this button to scan the stations entered in the unit's memory. When the desired station is reached, press the button again to stop the scan.

26 Numeric Buttons: Use these buttons to enter or recall stations from the tuner memory.

CONTROLS AND FUNCTIONS



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NOTE: The preset memories are protected from power loss for two weeks. If the unit is unplugged for more than two weeks all stored frequencies will be erased.

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26 Numeric Buttons: Use these buttons to enter or recall stations from the tuner memory.

DISASSEMBLY PROCEDURES

REFER TO PAGES (23-24).

[1] COVER TOP REMOVAL

Remove 6 screws (S2) and 2 screws (S1) and then remove the Cover Top (50).

[2] COVER BOTTOM REMOVAL

Remove 9 screws (S1) and the remove the Cover Bottom (31).

[3] FRONT PANEL ASSEMBLY REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the card cable from wafer (CP802 and CN502) on the Dolby P.C.Board (PCB5).
3. Remove the card cable from wafer (CP803) on the Tuner P.C.Board (PCB9).
4. Disconnect (CP401) from the Dolby P.C.Board (PCB5).
5. Disconnect (CP402) from the Main P.C.Board (PCB1).
6. Disconnect (CP801) from the Power Supply P.C.Board (PCB1).
7. Remove lug wire from the right Frame (29).
8. Remove 4 screws (S5), 4 screws (S1) and then remove the Front Panel Assembly (AA).

[4] VOLUME P.C.BOARD (PCB3) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the Front Panel Assembly (AA), referring to the previous step [3].
3. Pull out the Volume Knob (6) with Volume LED P.C.Board (PCB6).
4. Remove the Hex Nut from the volume-motor (23).
5. Remove 2 screws (S1) and then remove the Volume P.C.Board (PCB3).

[5] TONE P.C.BOARD (PCB4) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the Front Panel Assembly (AA), referring to the previous step [3].
3. Pull out the Bass/Treble/Balance knobs (8).
4. Remove the Hex Nuts from the variable resistors (19), (20).
5. Remove 4 screws (S1) on the Tone P.C.Board (PCB4) and then remove it.

[6] FRONT P.C.BOARD (PCB8) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the Front Panel Assembly (AA), referring to the previous step [3].
3. Remove 11 screws (S1) on the Front P.C.Board (PCB8) and then remove by pressing the hooks around it outward.

[7] DOLBY P.C.BOARD (PCB5) REMOVAL

1. Remove the Cover Top (50),referring to the previous step [1].
2. Remove the card cable from wafer (CP802,CN501,CN502) on the Dolby P.C.Board (PCB5).
3. Disconnect (CP401) from the Dolby P.C.Board (PCB5).
4. Disconnect (CP501) from the Tuner P.C.Board (PCB9).
5. Remove lug wire from the left Frame (35).
6. Unjoin 2 Fasteners (33) and then remove the Dolby P. C. Board (PCB5).

[8] TUNER P.C.BOARD (PCB9) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the card cable from wafer (CP803) on the Tuner P.C.Board (PCB9)
3. Disconnect (CP102 and CP501) from the Tuner P.C.Board (PCB9).
4. Remove 4 screws (S1) from the Chassis Back (46).
5. Remove 2 screws (S5) on the Tuner P.C.Board (PCB9) and then remove it.

[9] REGULATOR P.C.BOARD (PCB2) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Disconnect (CP103) from the Main P.C.Board (PCB1).
3. Remove screw (S1) from the left Frame (35) and then remove the Regulator P.C.Board (PCB2).

[10] POWER SUPPLY P.C.BOARD (PCB7) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Disconnect (CP801,CP703,CP101,CP702 and CP701) from the Power Supply P.C.Board (PCB7).
3. Unsolder all leads (P1 and P2) from the AC Power Cord (48).
4. Remove 2 screws (S1), from the Chassis Back (46).
5. Remove 2 screws (S5) on the Power Supply P.C.Board (PCB7) and then remove it.

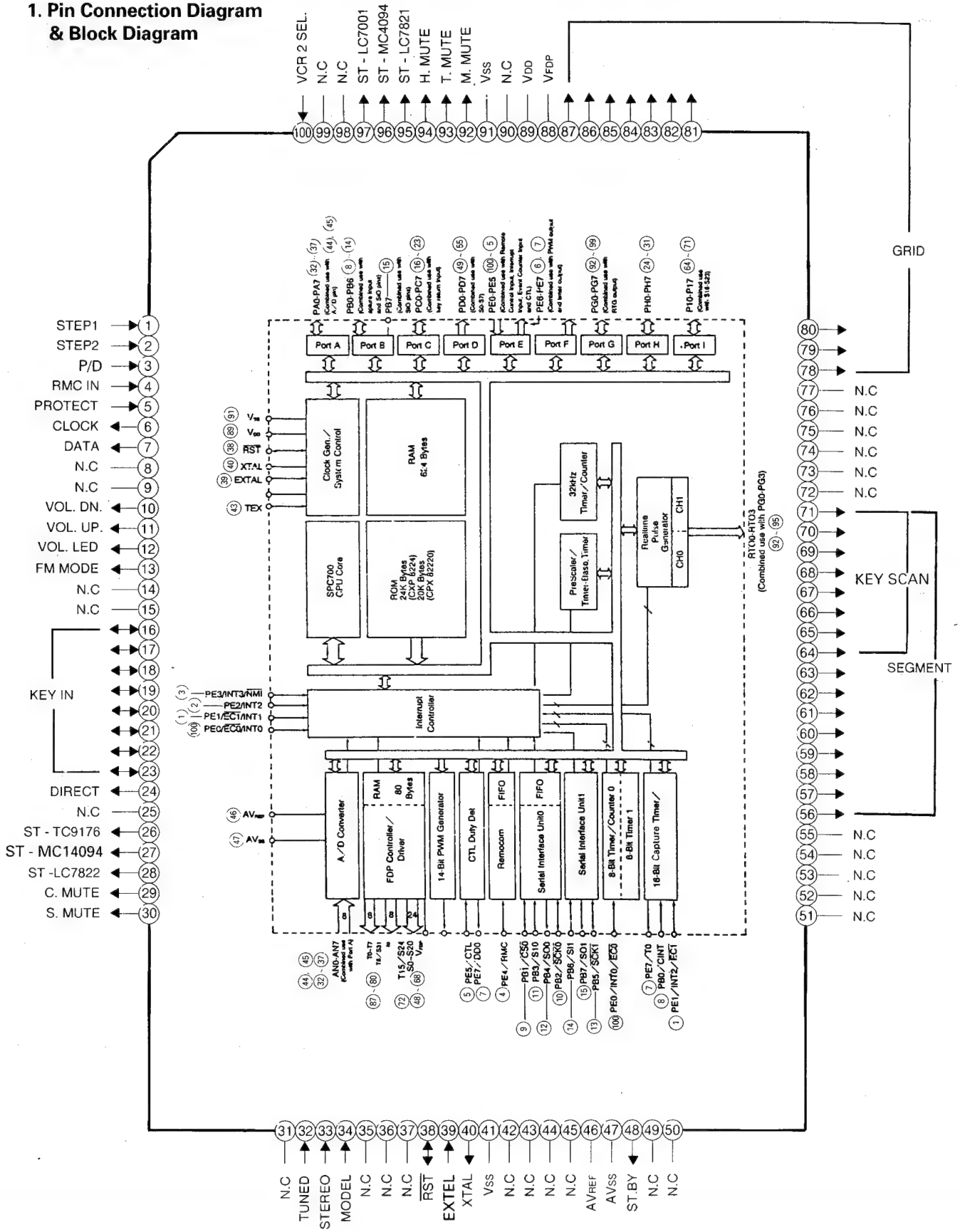
[11] MAIN P.C.BOARD (PCB1) REMOVAL

1. Remove the Cover Top (50), referring to the previous step [1].
2. Remove the Tuner P.C.Board (PCB9), referring to the previous step [8].
3. Disconnect (CP103 and CP401) from the Main P.C.Board (PCB1).
4. Disconnect (CP101) from the Power Supply P.C.Board (PCB7).
5. Remove the card cable from wafer (CP501) on the Main P.C.Board (PCB1).
6. Remove 8 screws (S1) and 2 screws (S3) from the Chassis Back (46).
7. Remove 8 screws (S5) on the Main P.C.Board (PCB1) and then remove it.

CIRCUIT DESCRIPTION

CPU (IC801) : CXP82220-107Q (8 bit SINGLE-CHIP MICROCOMPUTER)

1. Pin Connection Diagram & Block Diagram



2. Pin Functions

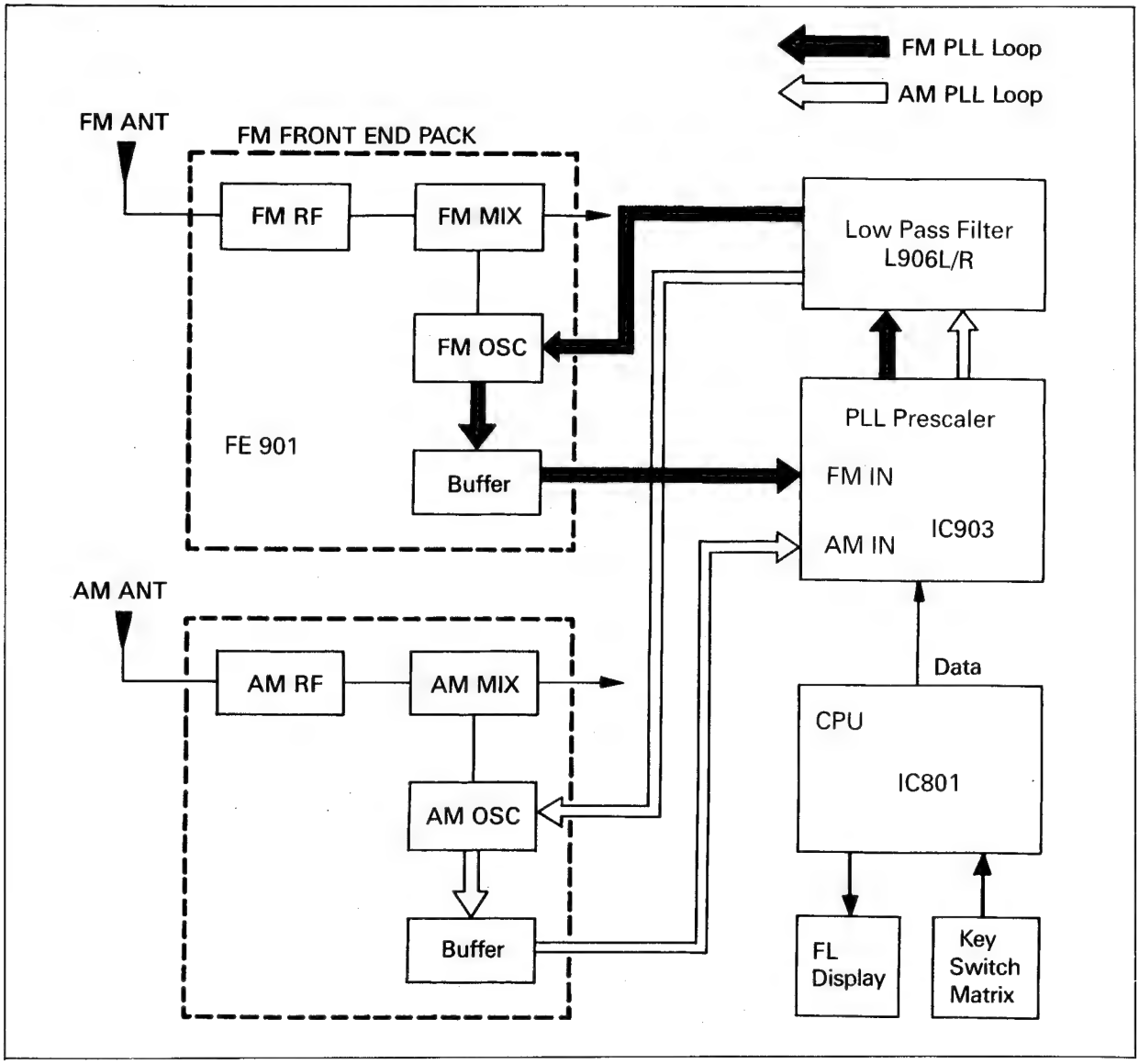
<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Description</th></tr>
<tr><td>1 / 2</td><td>STEP 1 / STEP 2</td><td>Input to select frequency band and step according to region.
<table>
<tr><th>REGION</th><th>FREQUENCY</th><th>STEP</th><th>STEP 1</th><th>STEP 2</th></tr>
<tr><td>AMERICA</td><td>FM: 87.5 - 107.9 MHz
AM: 520 - 1710 kHz</td><td>200 kHz
10 kHz</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>3</td><td>P / D</td><td>Input to detect power down. (At "L", it is active.)</td></tr>
<tr><td>4</td><td>RMC IN</td><td>Input for remote control signal. (At "L", it is active.)</td></tr>
<tr><td>5</td><td>PROTECT</td><td>Signal input for protection. (At "L", it is active.)</td></tr>
<tr><td>6 / 7</td><td>CK / DA</td><td>Clock/Data output for LC7821, LC7822, GD4094, TC9176 and LM7001.</td></tr>
<tr><td>8 / 9</td><td>N.C.</td><td>Not used !</td></tr>
<tr><td>10</td><td>VOL. DOWN</td><td>Output to drive volume motor for decreasing volume level.
(At "H", it is active.)</td></tr>
<tr><td>11</td><td>VOL. UP</td><td>Output to drive volume motor for increasing volume level.
(At "H", it is active.)</td></tr>
<tr><td>12</td><td>VOL. LED</td><td>Output to drive volume LED.</td></tr>
<tr><td>13</td><td>FM MODE</td><td>Output to select FM MONO or STEREO.
At "H", FM MONO is selected and at "L", FM STEREO is selected.</td></tr>
<tr><td>14 / 15</td><td>N.C.</td><td>Not used !</td></tr>
<tr><td>16 - 23</td><td>KEY IN</td><td>Data input for key scan.</td></tr>
<tr><td>24</td><td>DIRECT</td><td>Output to allow sound signal to by-pass tone control circuitry.
(At "H", it is active.)</td></tr>
<tr><td>25</td><td>N.C.</td><td>Not used !</td></tr>
<tr><td>26</td><td>ST-TC9176</td><td>Chip enable output for TC9176.</td></tr>
<tr><td>27</td><td>ST-MC14094</td><td>Chip enable output for MC14094.</td></tr>
<tr><td>28</td><td>ST-LC7822</td><td>Chip enable output for LC7822.</td></tr>
<tr><td>29</td><td>C. MUTE</td><td>Output for center mute.
Output, "H' under the following conditions.
1. When power is turned on or off.
2. When center mode is turned on or off.
3. When center mode is selected.
4. When test tone mode is on or off or when the channel is changed in the test tone mode.
5. When the protection terminal's level is "L".
6. When "-∞" mute signal is received from the commander.</td></tr>
<tr><td>30</td><td>S. MUTE</td><td>Output for surround mute.
Output, "H" under the following conditions.
1. When power is turned on or off.
2. When surround mode is selected.
3. When test tone mode is on or off or when channel is changed in the test tone mode.
4. When adjusting delay time.
5. When the protection terminal's level is "L".
6. When "-∞" mute signal is received from the commander.</td></tr>
<tr><td>31</td><td>N.C.</td><td>Not used !</td></tr>
<tr><td>32</td><td>TUNED</td><td>Input to detect station during tuning.
If "L" is inputed during tuning, tuning stops at that frequency.</td></tr>
<tr><td>33</td><td>STEREO</td><td>Input to light "STEREO" indicator. (At "L", it is active.)</td></tr>
</table>

Pin No.	Symbol	Description
34	MODEL	Input to select. (At "H", it is active)
35 - 37	N.C.	Not used ! (Connected to $V_{DD.}$)
38	RST	Input to reset CPU.
39	EXTAL	Input for crystal oscillator.
40	XTAL	Output for crystal oscillator.
41	V_{SS}	Ground.
42	N.C.	Not used !
43 - 45	N.C.	Not used ! (Connected to $V_{DD.}$)
46	AV_{ref}	Reference voltage. (Connected to 5 V, not $V_{DD.}$)
47	AV_{SS}	Ground.
48	ST.BY	When power is on, control data output is "H". When power is off, control data output is "L" and last memory function is activated.
49 - 55	N.C.	Not used !
56 - 63	SEGMENT	Segment signal output for FIP.
64 - 71	SEGMENT / KEY SCAN	Segment signal output for FIP and Data output for key scan.
72 - 77	N.C.	Not used !
78 - 87	GRID	Grid signal output for FIP.
88	V_{FDP}	Power supply for FIP controller.
89	V_{DD}	+5 V power supply.
90	N.C.	Not used !
91	V_{SS}	Ground.
92	M. MUTE	Output for main mute. Output is "H" under the following conditions. 1. When power is turned on or off. 2. When function is changed. 3. When the protection terminal's level is "L". 4. When "-∞" mute signal is received from the commander.
93	T. MUTE	Output for tuner mute. Output, "H" under the following conditions. 1. When power is turned on or off. 2. When tuner band or FM mode is changed. 3. When Tuning Up or Down button is pressed. 4. When recalling the station stored in memory. 5. When the protection terminal's level is "L". 6. When "-∞" mute signal is received from the commander.
94	H. MUTE	Output for headphone mute. Output, "H" under the following conditions. 1. When power is turned on or off. 2. When selecting the input function. 3. When the protection terminal's level is "L". 4. When "-∞" mute signal is received from the commander.
95	ST-LC7821	Chip enable output for LC7821.
96	ST-MC4094	Chip enable output for MC4094.
97	ST-LC7001	Chip enable output for LC7001.
98 / 99	N.C.	Not used !
100	VCR 2 SEL.	Input to select VCR 2 rear or front. At "H", VCR 2 rear is selected and at "L", VCR 2 front is selected.

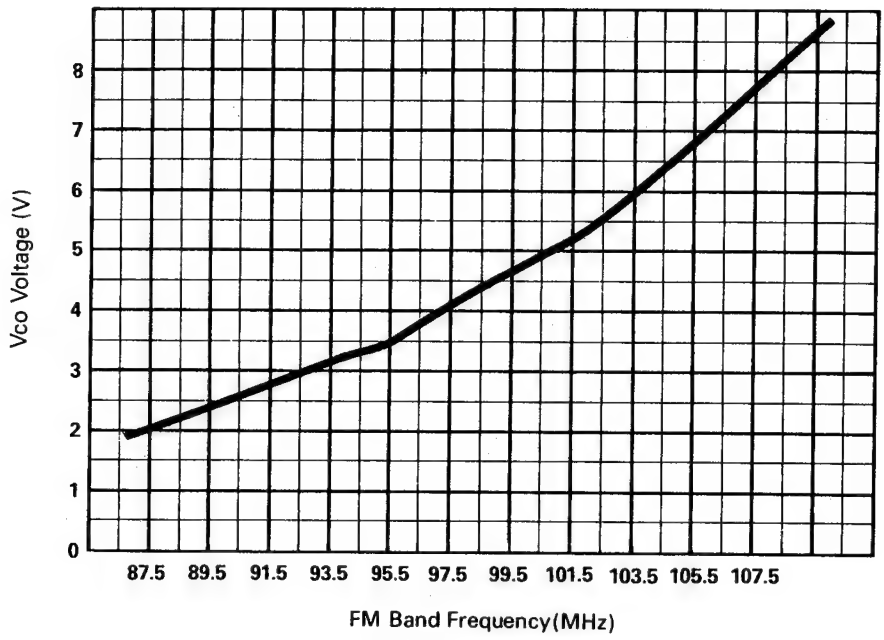
3. Key Matrix

Pin No.	64	65	66	67	68	69	70	71
16	3 CHANNEL	TAPE2 MON.			TV/AUX		TUNER ▶	TUNER ◀
17	DIRECT	CENTER		SURR. MODE			AUTO/MANU.	MODE
18	THEATER	VCR1/REC			VDP	VCR2	FM	AM
19								
20							CD	TUNER
21	P.SCAN	5	9		MEMO.	VCR1		
22	1	4	2	3		TAPE1	TEST TONE	OFF
23	6	0	7	8	PWR		STADIUM	PRO-LOGIC

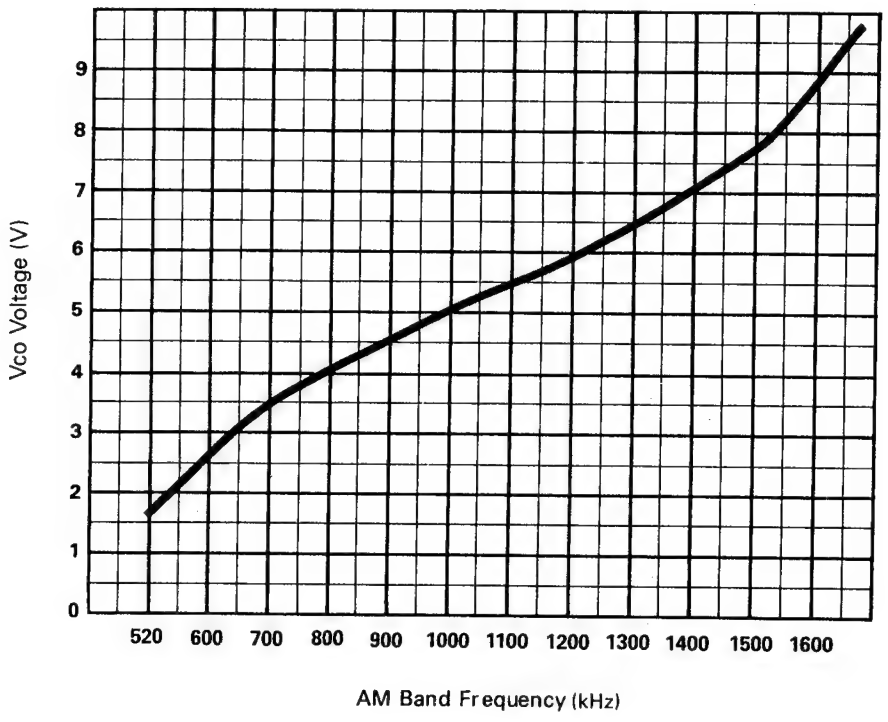
4. Digital Tuning System Description



• **Vco vs. FM Band Frequency Curve**

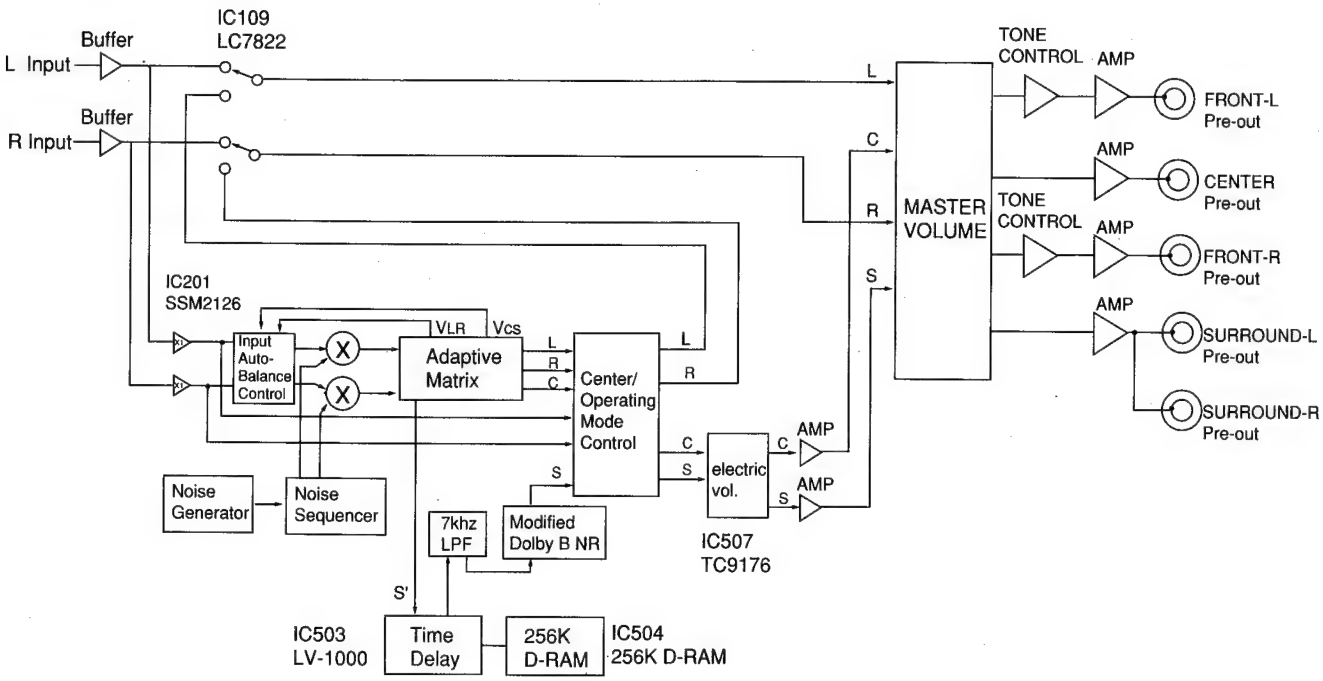


• **Vco vs. AM Band Frequency Curve**



5. DOLBY SURROUND CIRCUITS

Fig. 1 is a block diagram of the Dolby surround circuit.
The microprocessor transfers the data to the Dolby Pro – Logic decoder and Time Delay Device to operate the circuits in each mode.



<Block diagram of the Dolby surround circuit>
Fig. 1

1) OFF

Set to this mode to listen to ordinary stereo sound.
The rear L/R and center outputs will be muted.

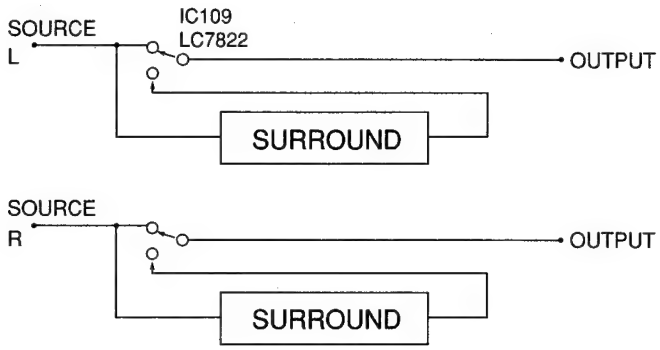
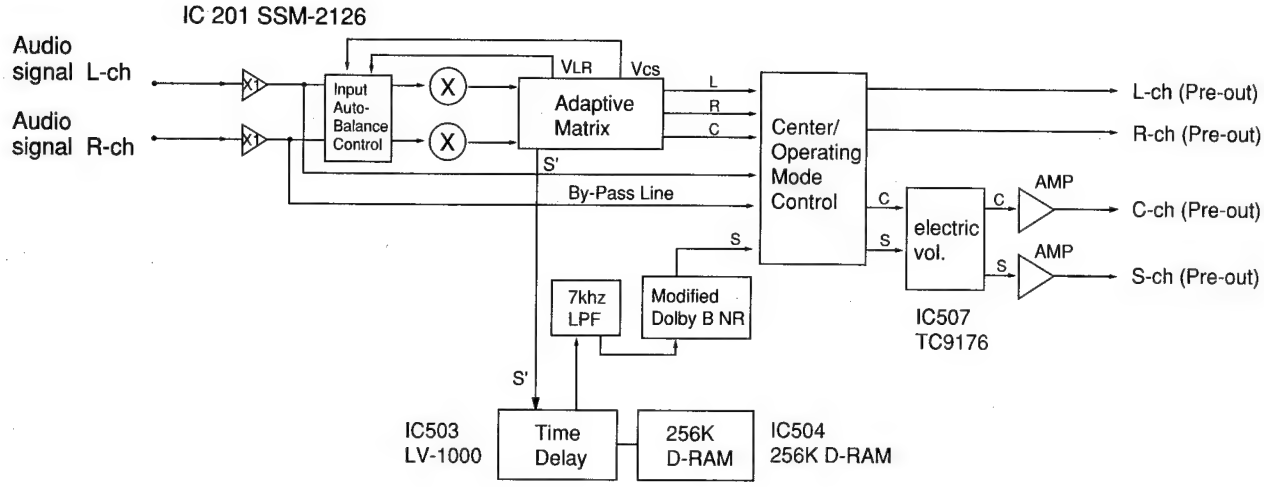


Fig. 2

2) DOLBY PRO – LOGIC CIRCUIT

Dolby Pro – Logic is a sound effect system for movies developed by the Dolby Laboratories Licensing Corp.
IC201 (SSM2126) is a Dolby Pro – Logic decoder IC.
When an audio signal recorded using the Dolby Pro – Logic system is sent to this IC, the left, right, center and surround components are separated.
The surround signal component is delayed by the delay IC503 (LV-1000), IC504 (256K D-RAM).
Fig. 3 Shows the configuration of the dolby decoder.



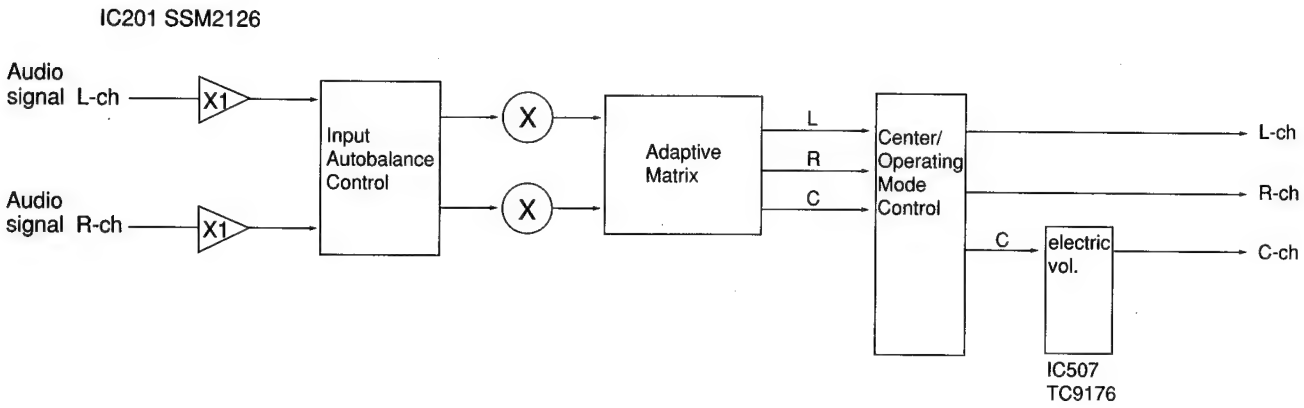
<Flow of signals within the system in the Dolby Pro – Logic mode>
Fig. 3

With Dolby pro logic, three center modes depend on the use of a center speaker as follows.

NORMAL	: Bass frequencies are sent only to the Left and Right Front channels. Select this mode when the Center Speaker is smaller than the Left and Right speakers.
WIDE	: Bass frequencies are sent to the Left, Center and Right speakers. Select this mode when the Center speaker is approximately the same size as the Left and Right speakers.
PHANTOM	: Center channel information is sent to the Left and Right speakers. Select this mode when you do not have a center channel speaker.

3) 3-STEREO CIRCUIT

In 3 – stereo mode, surround sound is sent to front Light channel and front Right channel and no surround sound is sent to surround channel.

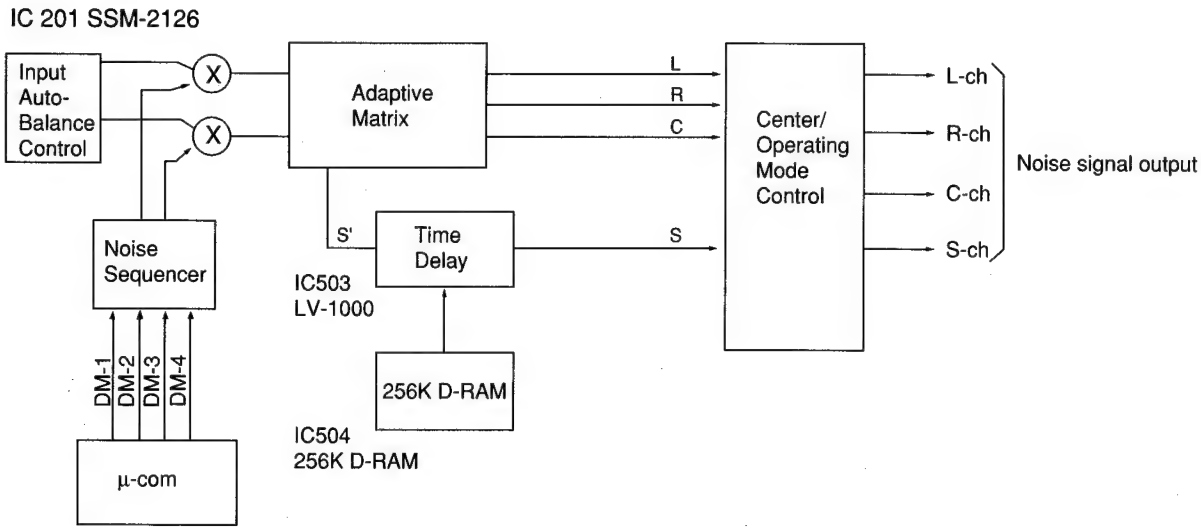


<Flow of signal within the system in the 3 – stereo mode>
Fig. 4

4) TEST TONE GENERATOR

The test tone generator generates a test tone (noise) to check the balance of sound output from each speaker in the Dolby pro logic mode. (This circuit is producted under license of the Dolby Laboratories Licensing Corp.) The noise generator signals shown the table below applies to the DM –1 / 2 / 3 / 4 pins of IC 201. The test tone is sent to the loud – speakers at 2 second intervals in the following sequence : Left, Center, Right, Rear (both rear channels).

Pin Name	DM-1 (Pin 23)	DM-2 (Pin 24)	DM-3 (Pin 25)	DM-4 (Pin 26)
L – CH.	L	H	L	L
C – CH.	L	H	L	H
R – CH.	L	H	H	L
S – CH.	L	H	H	H



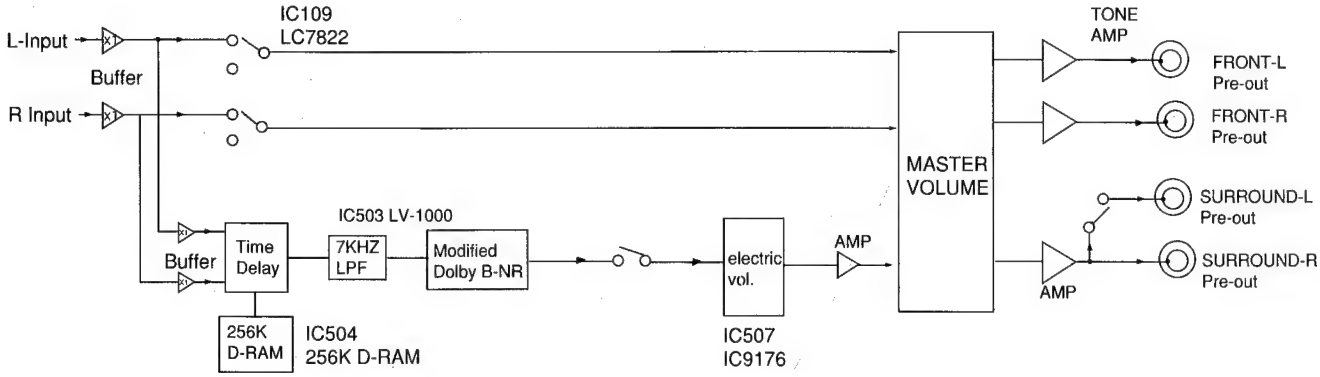
<Flow of noise signals within the system>
Fig. 5

6. OTHER SURROUND CIRCUITS

This model has Theater and Stadium surround circuits, except Dolby surround circuits.
Theater / Stadium modes work best for recorded concerts and other music programs.
In these modes, the front speakers provide a normal stereo effect while the rear speakers provide a reverberated sound.
This reverberation helps simulate the sound you might hear at a live concert.

1) THEATER SURROUND CIRCUIT

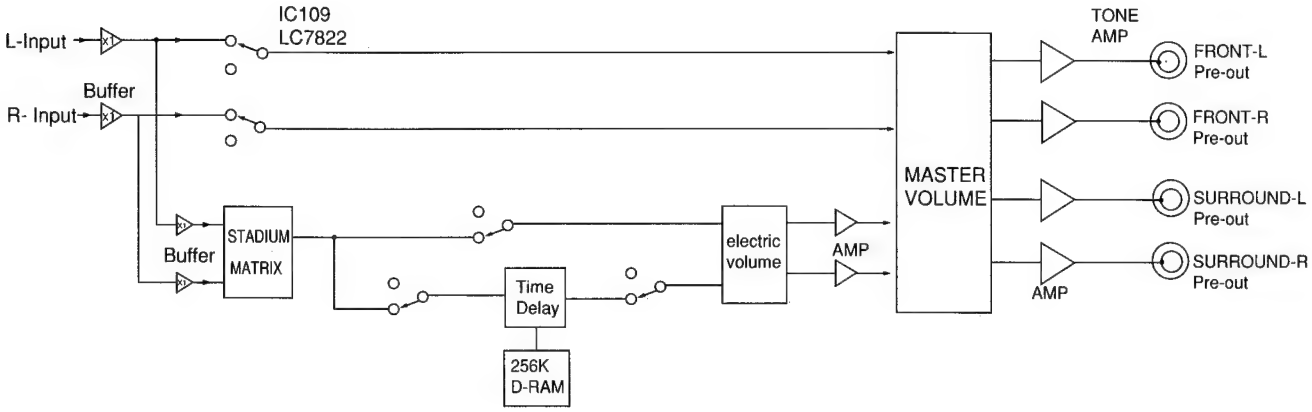
Fig. 6 flow of signal of the theater surround circuit.
In this mode, the center output will be muted.



<Flow of signal of the theater surround circuit>
Fig. 6

2) STADIUM SURROUND CIRCUIT

Fig. 7 is flow of signal of the stadium surround circuit.
In this mode, the center output will be muted.



<Flow of signal of the theater surround circuit>
Fig. 7

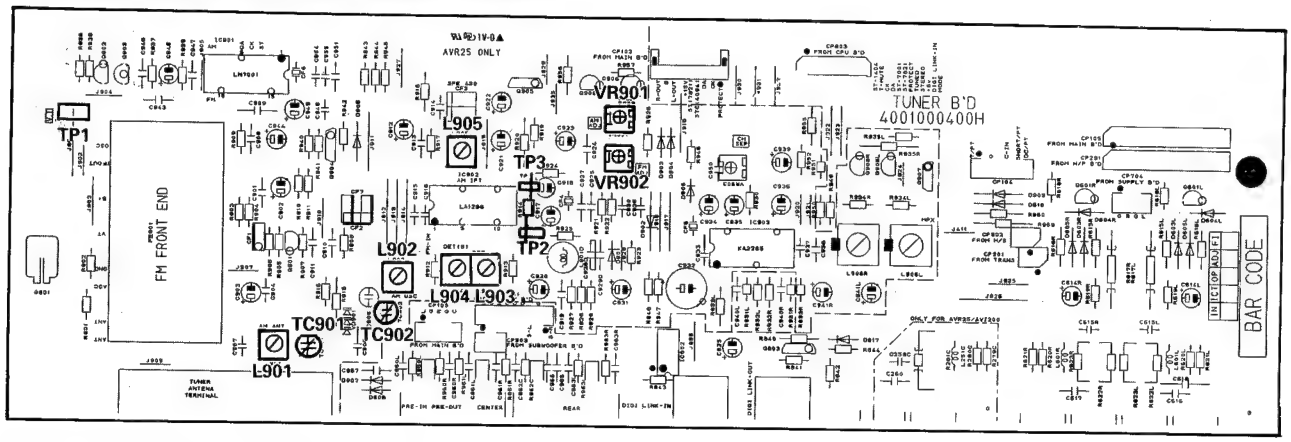
ALIGNMENT PROCEDURES

1. Equipment Required

- AM Standard Signal Generator (AM SSG)
- Oscilloscope
- AC Voltmeter
- FM Standard Signal Generator (FM SSG)
- Stereo Modulator
- Audio Generator
- Distortion Meter
- DC Voltmeter
- Frequency Counter

Note : Disconnect external FM antenna prior to alignment.

2. Alignment and Test Points (PCB9)

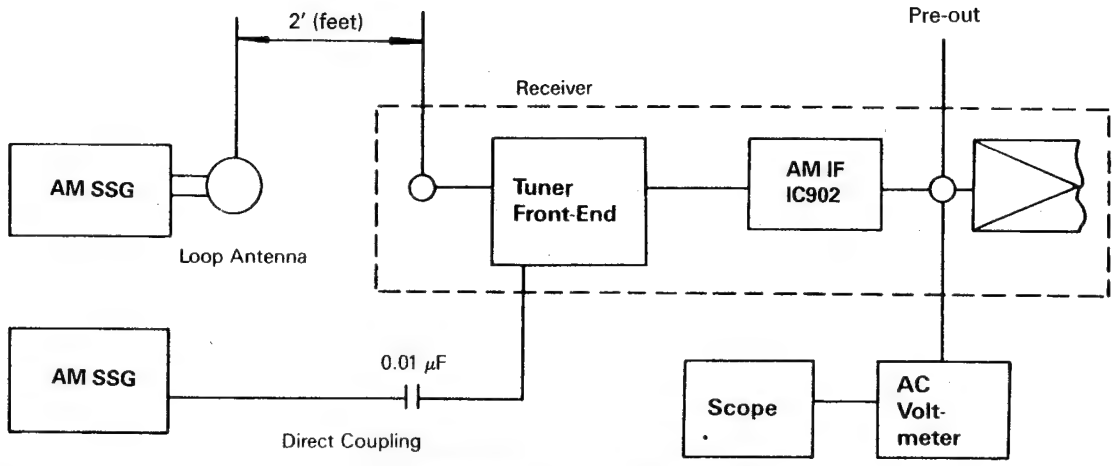


3. AM IF and RF Alignment

Preparation

1. Output of Signal Generator should not be higher than necessary to obtain an optimum output reading.
2. Signal Generator Modulation: 30%.
3. Switch: Press to AM.

Step	Signal Generator Frequency	Receiver Frequency on the Display	Equipment Connection	Adjustment Point	Adjust for
1	999 kHz (400 Hz, Mod.)	522 kHz	DC Voltmeter TP1	L902	1.2 V reading
		1611 kHz	DC Voltmeter TP1	TC902	8.5 V reading
2	594 kHz (400 Hz, Mod.)	594 kHz	AC Voltmeter to TAPE OUT jack.	L901 (ANT Coil)	Maximum reading
3	1404 kHz (400 Hz, Mod.)	1404 kHz	AC Voltmeter to TAPE OUT jack.	TC901 (ANT Trimmer)	Maximum reading
4	450 kHz (400 Hz, Mod.)	Place at a nonin-terference spot around 600 kHz.	AC Voltmeter to TAPE OUT jack.	L905 (IFT)	Maximum reading
5	999 kHz (400 Hz, Mod.)	999 kHz	Same as Step 1.	VR901	FL display 'TUNED' Indication on receiver with AM SSG Output level of 800 µV/m



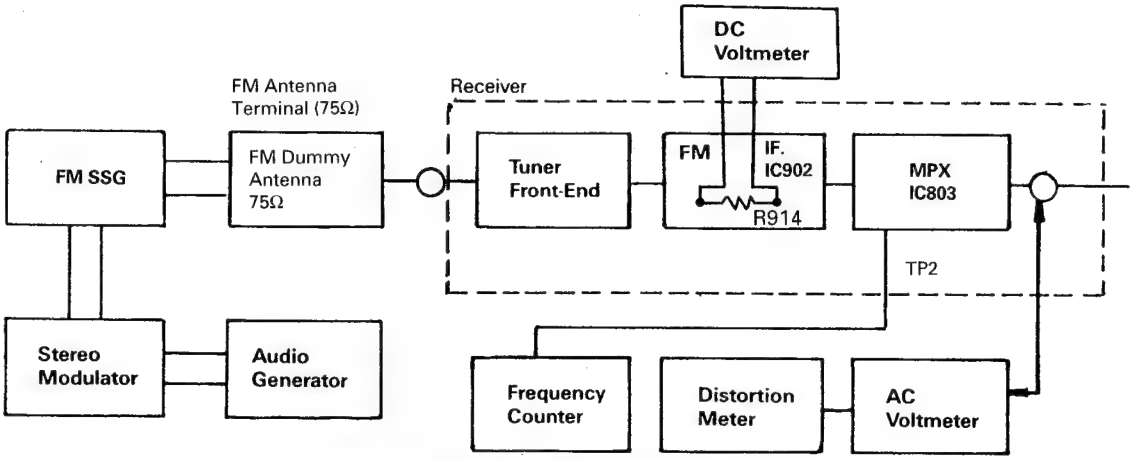
AM Alignment Connection

4. FM IF Alignment

Preparation

1. Signal Generator output should be no higher than necessary to obtain an optimum output reading.
2. Switch Press to FM.
3. Signal generator deviation : 40 kHz.

Step	Signal Generator Frequency	Receiver Frequency Display	Equipment Connection	Adjustment Point	Adjust for
1	98.0 MHz (1 kHz, Mod.)	98.0 MHz	Distortion meter to TAPE OUT jack	L904	Minimum distortion (0.2%) 1kHz mono.
3	98.0 MHz (1 kHz, Mod.)	98.0 MHz	Same as Step 1	VR902	FL display 'TUNED' Indication on receiver with FM SSG output level of 10 μV/m
3	98.0 MHz (1 kHz, Mod.)	98.0 MHz	DC Volt meter across R914 which are TP2 and TP3.	L903	Zero reading on DC volt meter.



FM RF/IF and MPX Alignment Connction

5. MPX Alignment

Preparation

1. Switch : Press to FM.
2. Tuner for 98 MHz on band.
3. Signal Generator output level : 1000 μV.
4 Deviation : 40 kHz, at 100% modulation of composite signal.
5. Connect Signal Generator to FM antenna terminal through FM dummy antenna (75 Ω).

Step	19 kHz Modulation Level	Signal Generator Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	8% Mod.	Composite to channel 1kHz R	AC voltmeter to TAPE OUT jack of R channel	–	Confirm audio output as about 450mV and reference as "0dB".
2	8% Mod.	Composite to channel 1 kHz L	AC voltmeter to TAPE OUT jack of R channel	VR803	AC voltmeter reading should be at least 40 dB below.
3	8% Mod.	Composite to channel 1 kHz R	AC voltmeter to TAPE OUT jack of L channel	VR803	Same as Step 2.
If you could not obtain –40dB readings in Steps 2 and 3 (compared with Step 1), readjust VR803 until you obtain –40dB readings for both Steps 2 and 3. Nominal is –45 dB.					

TROUBLESHOOTING

Symptom	Cause and Remedy
Receiver inoperative (FIP indicator does not light)	A) Faulty AC power cord. Replace. B) Defective the power switch. Replace. C) Broken wire in the power transformer. Replace the power transformer. D) Blown power Replace the fuse.
Fuse blows when power is turned on.	A) Defective power transformer. Replace. B) Short in the primary or secondary of the transformer circuitry. Repair the trace.
PHONO input inoperative	A) Poor contact in phono input jack. Repair or replace the jack. B) Defective phono switch or IC106. Replace.
LOUDNESS has no effect	A) Defective loudness switch. Replace. B) Defective resistors R301 L/R and capacitors C301 L/R. Replace the defective component(s).
FM inoperative	A) Defective front-end. (FE-901) Replace. B) Defective FM switch. Replace the switch C) Defective transistor Q901, Q904, Q905 and IC'S IC901, IC902, IC903 Replace the defective transistor(s) or IC(s). D) Defective coil L903 or L904. Replace the coil(s). E) Defective lead-in. Repair or replace the lead-in. F) Ceramic filter CF901, CF902 defective. Replace the defective ceramic filter(s). G) Defective controller circuit component. Replace.
Poor multiplex separation	A) Improper adjustment. Readjust VR803. (Refer to MPX Alignment.) B) IC903 defective. Replace. C) Variable resistor VR803 defective. Replace the variable resistor.
STEREO indicator does not light	A) Defective indicator in FIP (Fluorescent Indicator Panel). Replace. B) Improper adjustment of VR903 of tuner board. (PCB9). Make readjustment. C) Defective IC903. Replace the defective component.

Symptom	Cause and Remedy
FM volume not sufficient	A) If volume from both L and R channels is not loud enough : Front end Section defective. Faulty IC902, Coil L903 Defective C907 of tuner Board (PCB9). If sound of one channel is not loud enough: Defective L906 L/R.
FM Mono has no effect	A) Defective FM MODE switch. Replace.
AM inoperative	A) Damaged IC902 of tuner board. Replace. B) Defective L901, L902, L905 or CF3 of tuner board (PCB9). Replace the defective component(s). C) Resistor R915, R926 defective. Replace the defective resistor(s). D) Capacitor C906, C922, C926 defective. Replace the defective capacitor(s). E) Defective AM switch Replace. F) Defective varicap diode VD901, VD902. Replace varicap diode(s). G) Damaged AM loop antenna. Repair or replace. H) Defective controller circuit component. Replace.
Bass control has no effect	A) Variable resistor BASS defective. Replace. B) Defective R416L/R, R417L/R, R418L/R, C414L/R, C415L/R Replace the defective component(s).
Treble control has no effect	A) Variable resistor TREBLE defective. B) Defective C417L/R, C418L/R, R419L/R, R420L/R Replace the defective components(s).
Auto tune inoperative (UP/DOWN)	A) Poor contact in Up/Down key. Repair replace. B) Defective IC801 Replace. C) Defective FIP Display. Replace. D) Defective tuner circuit component. Replace. E) In case of FM only, improper adjustment of FM front-end. Readjust.
Manual tune inoperative (UP/DOWN) (AM or FM)	A) Poor contact in Up/Down key. Replace. B) Defective IC801. Replace.

Symptom	Cause and Remedy
Memory setting (keys 1-10) inoperative	A) Poor contact in memory keys 1-10. Replace. B) Poor contact in memory set key. Replace. C) Defective IC801. Replace the defective component.
FIP inoperative	A) FIP defective. Replace. B) Defective IC801. Replace C) Defective X-TAL 801. Replace.
Noise Volume control	A) Defective IC301. Replace. B) Defective capacitor C304 or C305 Replace the defective capacitor(s).
Remote Control Unit inoperative	A) Weak Battery. Replace. B) Defective. Replace. C) Defective IC801 or Sensor 801 (CPU Board) or IC01. Replace.

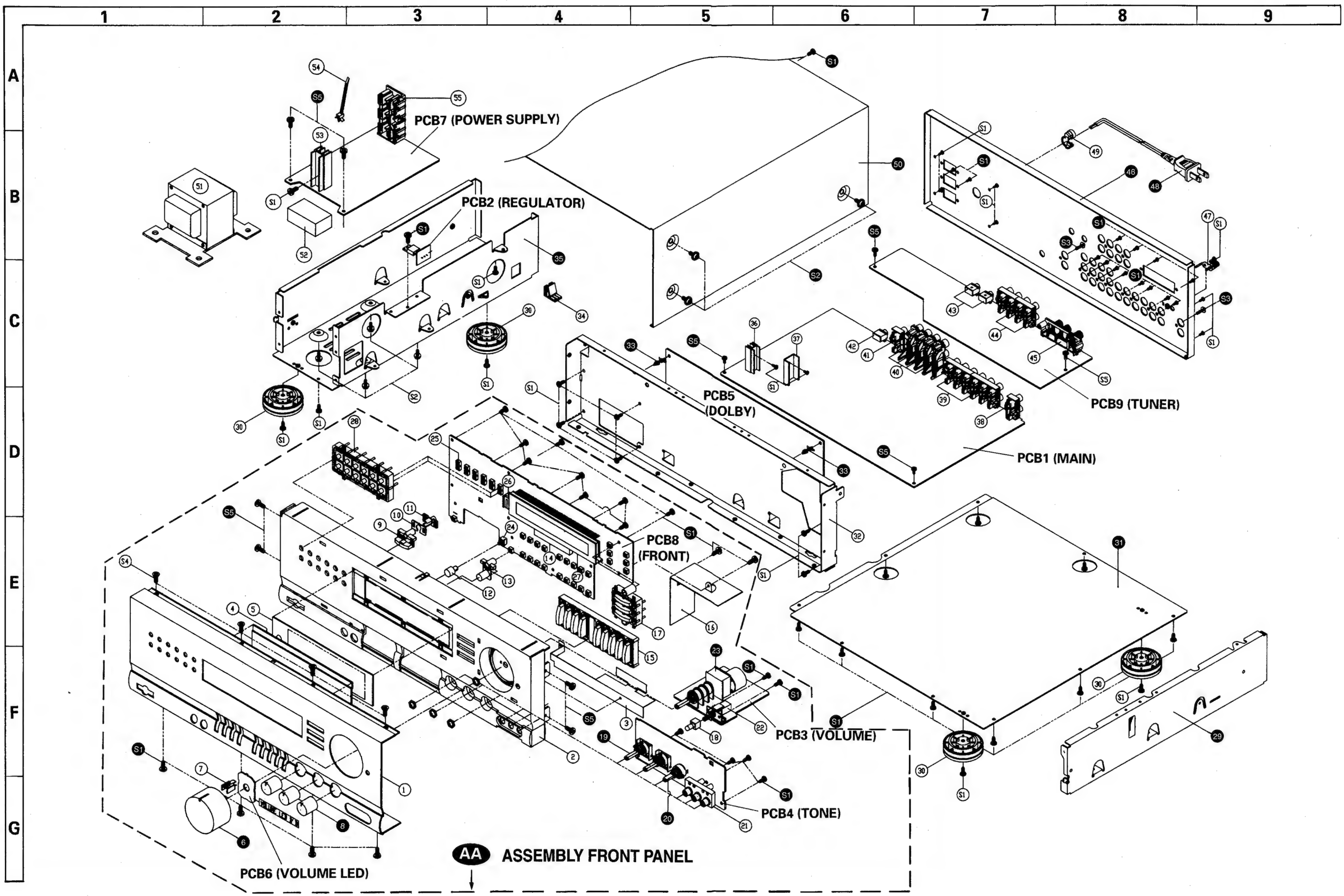
GENERAL UNIT PARTS LIST

REF. NO.	DESCRIPTION	MFR. PART NO.	Q'TY
	CABINET AND CHASSIS		
1	PANEL, FRONT	048602019331	1
2	BODY, FRONT	8521008910	1
3	SHIELD FENCE	6163115010	1
4	WINDOW, FL	8553020110	1
5	FILTER, FL	048535042611	1
6	KNOB, VOLUME	048643006711	1
7	INDICATOR, VOLUME	8555049210	1
8	KNOB, ROTARY	048545124311	3
9	BUTTON, POWER	048543061011	1
10	LIGHT SHIELD	8535042810	1
11	INDICATOR, POWER	8555048710	1
12	BUTTON, SPEAKER	048545124111	1
13	BOTTOM, SOURCE	048543060911	1
14	SPONGE RUBBER	6715020730	1
15	BUTTON, SEESAW	048543060811	1
16	SHIELD FENCE	6163114510	1
17	BUTTON, TUNING	048543059711	1
18	BUTTON, LOUD	048545124211	1
19	VOLUME, RK16K128000114C RMD41	3208049510	2
20	VOLUME, RK16K118000114H RMM44	3208052010	1
21	JACK RCA, 3P	4438109710	1
22	SWITCH, SPUL-12X1H091-SUE33	4628059610	1
23	VOLUME MOTOR, RK16314MC1R253B RM094	3228019410	1
24	SWITCH, SPEA-122SC011-SU504	4628054410	1
25	SWITCH, SKHV10910D01-KB581	4658003710	38
26	REMOTE SENSOR, TFMT5380 (38 kHz)	2408005001	1
27	FL DISPLAY, FIP12LM8	2328130301	1
28	BUTTON, PRE-SET	048543059611	1
29	FRAME RIGHT	6122632210	1
30	FOOT	046033102511	4
31	COVER BOTTOM	6122420520	1
32	CHASSIS, FRONT	6122214610	1
33	FASTENER, KGLS-4S	6528300110	2
34	STOPPER PCB	6515013810	1
35	FRAME LEFT	6122632110	1
36	HEATSINK, REGULATOR TR.(15X45)	7505206220	1
37	HEATSINK, REGULATOR TR.(15X30)	7505202410	1
38	JACK RCA, 2P	4438108510	1
39	JACK RCA, 6P	4438108710	2
40	JACK RCA, 3P, JE0300390N	4438108830	4
41	JACK RCA, 2P	4438114210	1
42	PHONE JACK, YKB21-5130	4438112710	1
43	JACK, HSJ0912-01-052	4438006510	2
44	JACK RCA, 4P	4438108610	2
45	TERMINAL ANTENNA	4408108320	1
46	CHASSIS, BACK	046102048521	1
47	TERMINAL, S4011062KN	4408103720	1
⚠ 48	AC CORD, EHD-0008-266P	4308001410	1
49	STOPPER, AC CORD, SR-4N-4	6518000710	1
50	COVER, TOP	046122022621	1
⚠ 51	POWER TRANSFORMER, 120V, 60Hz	2828101307	1
52	SPONGE RUBBER	6715026720	1
53	HEATSINK, REGULATOR TR.(15X30)	7505206210	1
54	LOCKING TIE, WPM13248	6528002810	1
⚠ 55	AC OUTLET, CCT1306-0212	4448102910	1
	HARDWARE KIT		
S1	SCREW, #B BTT 3 X 8B	8179130083	69
S2	SCREW, WSAM 4 X 8B	8159440083	10
S3	SCREW, GND #B BT 3X10B	8198001910	2
S4	SCREW, #2 FTC 3X8B	8129230083	4
S5	SCREW, #B WPTT 3X6Y	8179230061	10
	MISCELLANEOUS		
	CABLE, UL2896-1.25-12-350-C	4118612355	1
	CABLE, YS=1.25-19-300-C	4118619305	1
	CABLE, YS=1.25-15-180-C	4118615189	1
	CABLE, YS=1.25-18-140-C	4118618149	1
PCB1	P.C.BOARD MAIN	4001000300	1
PCB2	P.C.BOARD REGULATOR	4001000450	1
PCB3	P.C.BOARD VOLUME	4001000440	1
PCB4	P.C.BOARD TONE	4001000430	1
PCB5	P.C.BOARD DOLBY	4001000510	1
PCB6	P.C.BOARD VOLUME LED	4001000530	1
PCB7	P.C.BOARD POWER SUPPLY	4001000410	1
PCB8	P.C.BOARD FRONT	4001000500	1
PCB9	P.C.BOARD TUNER	4001000400	1

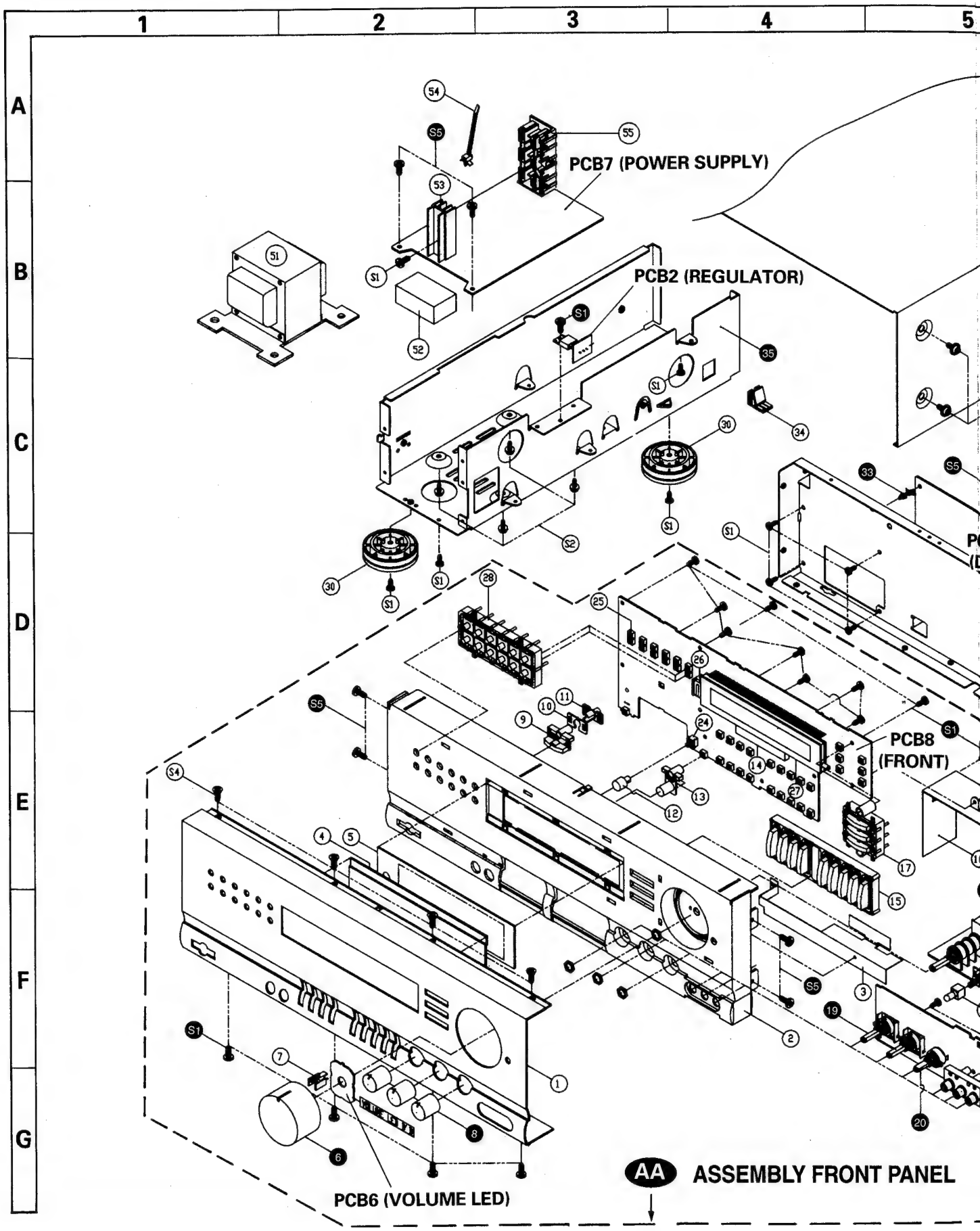
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list are of special significance to safety. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

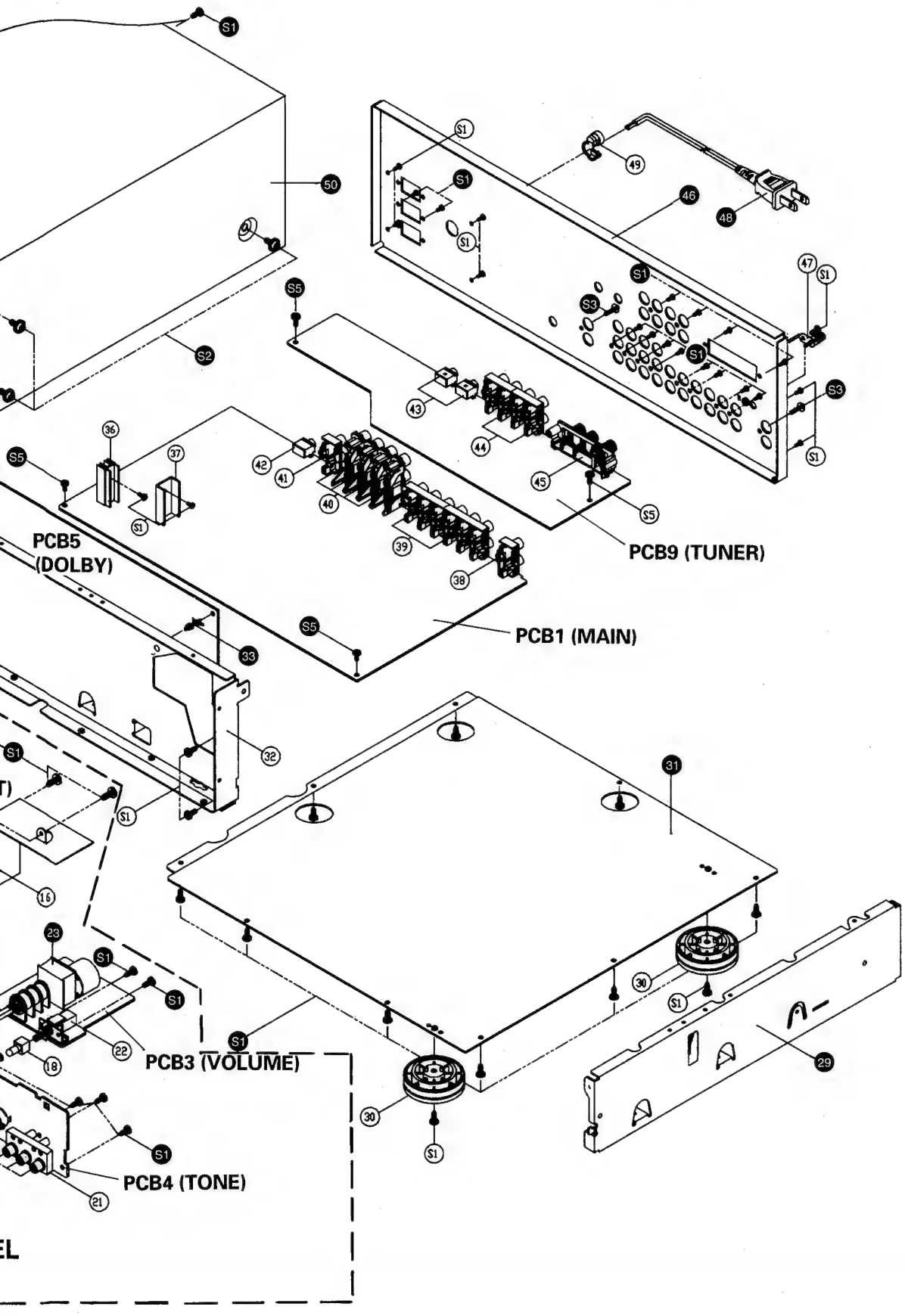
GENERAL UNIT EXPLODED VIEW



GENERAL UNIT EXPLODED VIEW

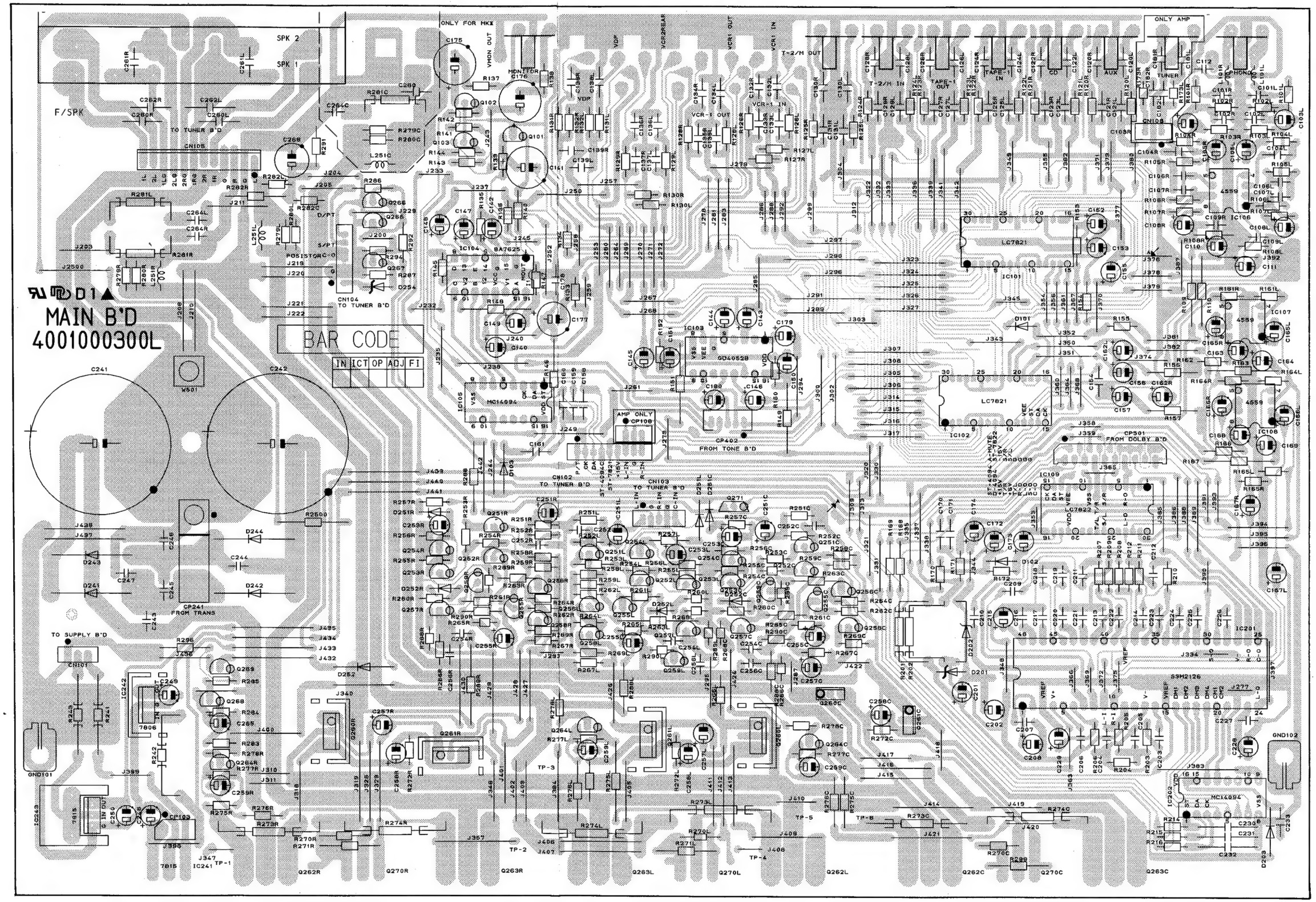


5	6	7	8	9



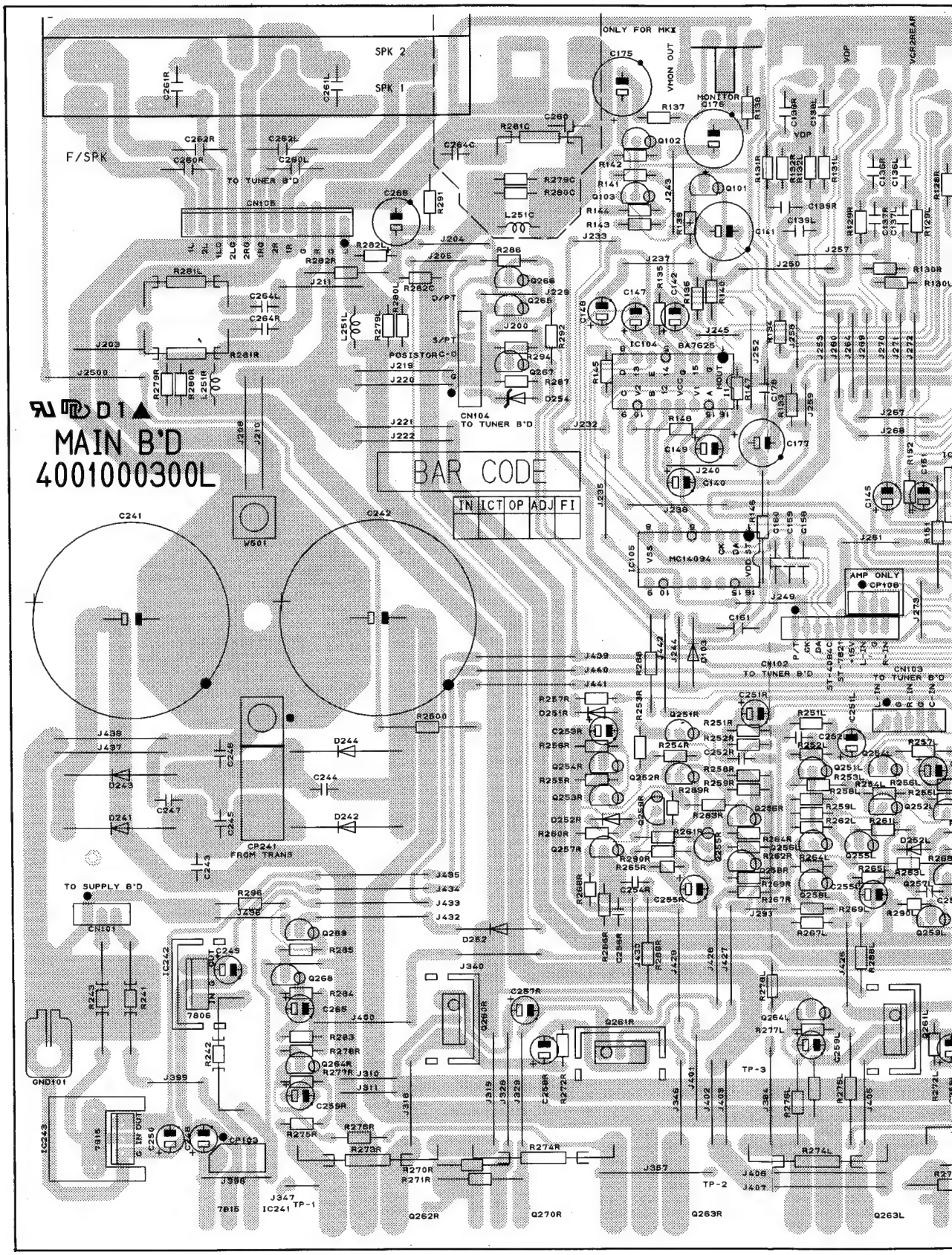
PRINTED CIRCUIT BOARDS

PC-1 MAIN

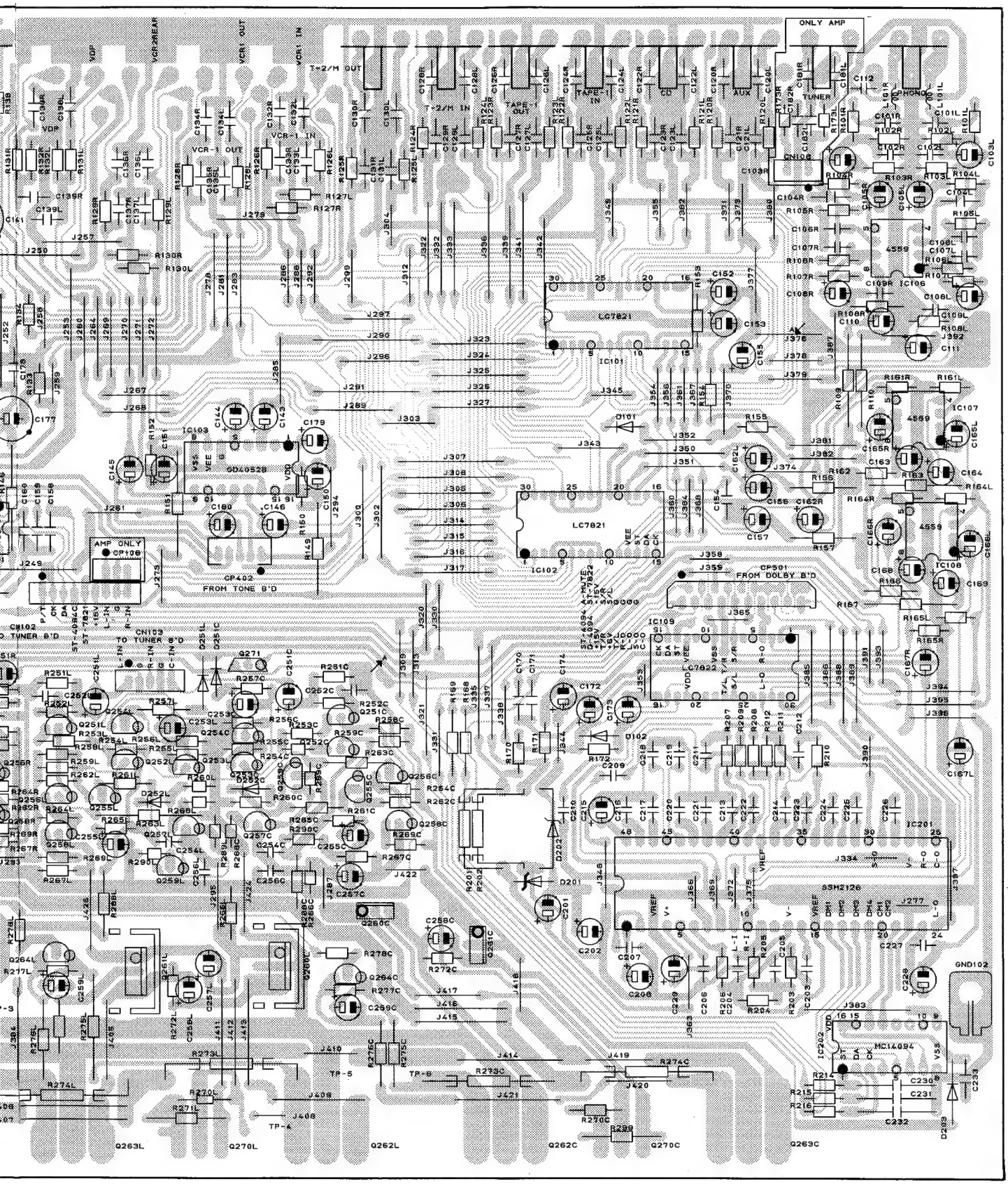


PRINTED CIRCUIT BOARDS

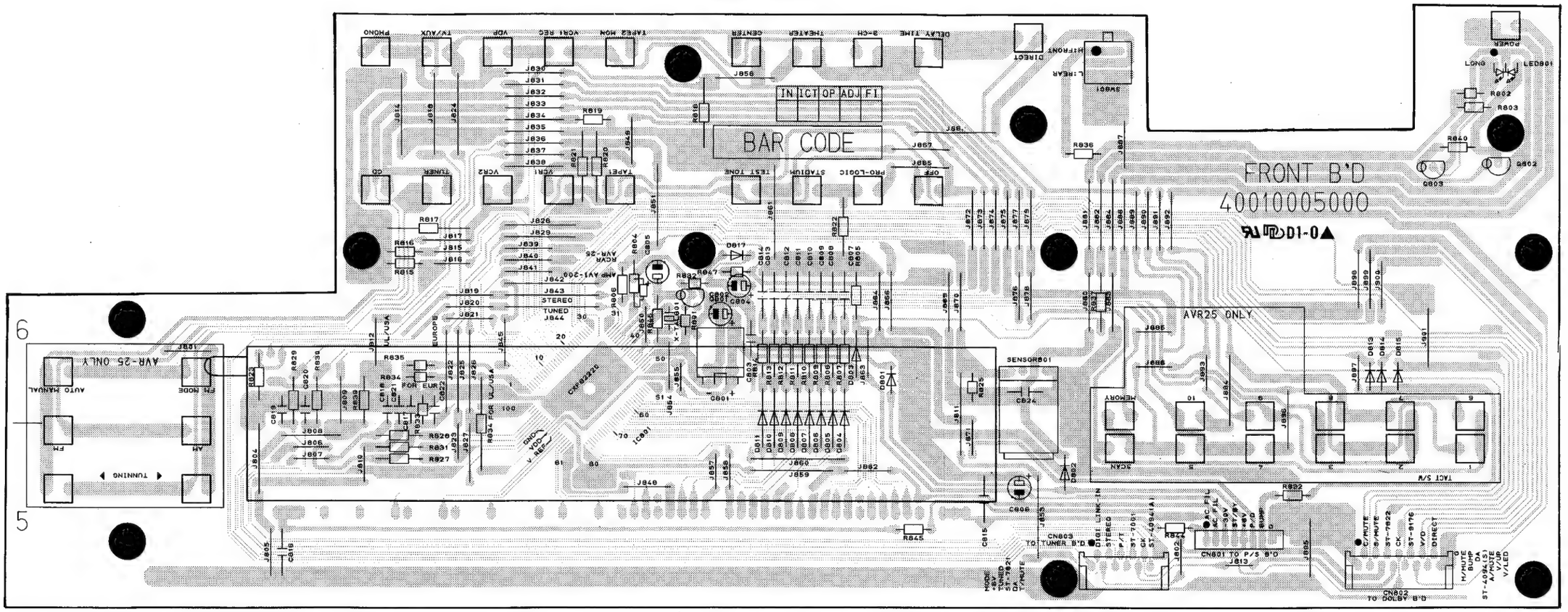
PC-1 MAI



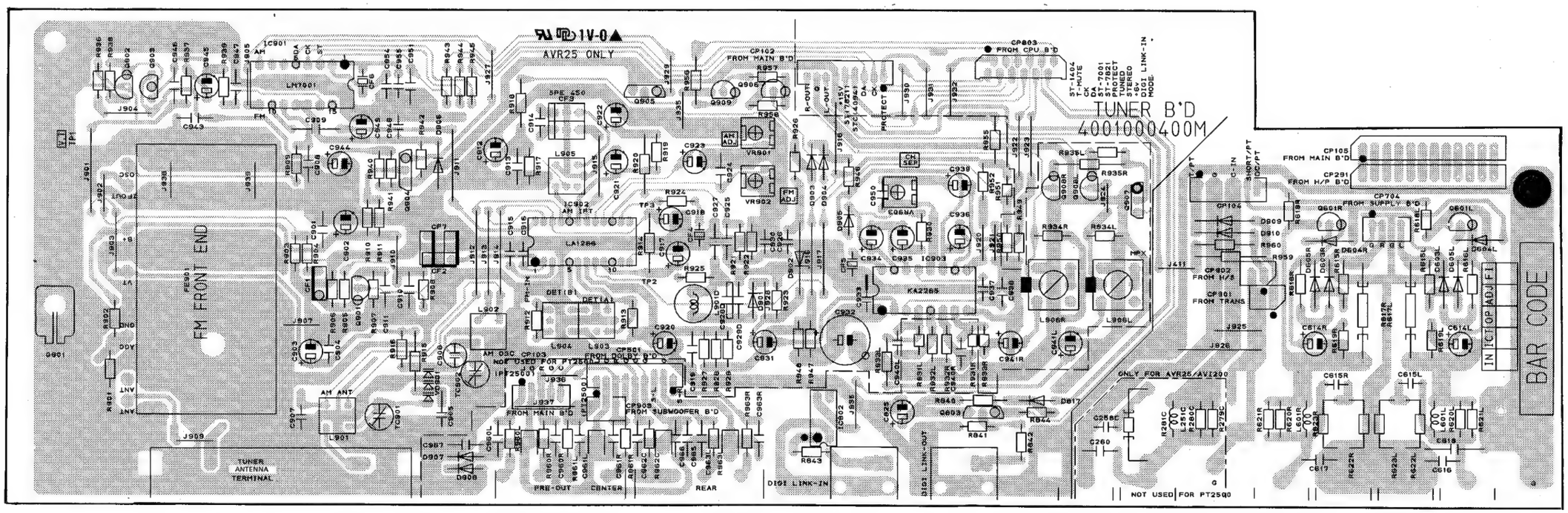
PC-1 MAIN


ONLY AMP
VDP
VDP2REAR
VCR1 OUT
VCR1 IN
T-2/M OUT
T-2/M IN
TAPE OUT
TAPE IN
CD
AUX
TUNER
PHONO
VCR-1 OUT
VCR-1 IN
LC7821
IC101
LC7821
IC102
GD4052B
IC103
LC7822
IC109
MC14094
IC202
M5M2126
IC201
IC107
IC108
IC106
AMP ONLY
CP100
CP402
FROM TONE B'D
CP501
FROM DOLBY B'D
CN102
TO TUNER B'D
CN103
TO TUNER B'D
GND102
TP-5
TP-6
TP-4

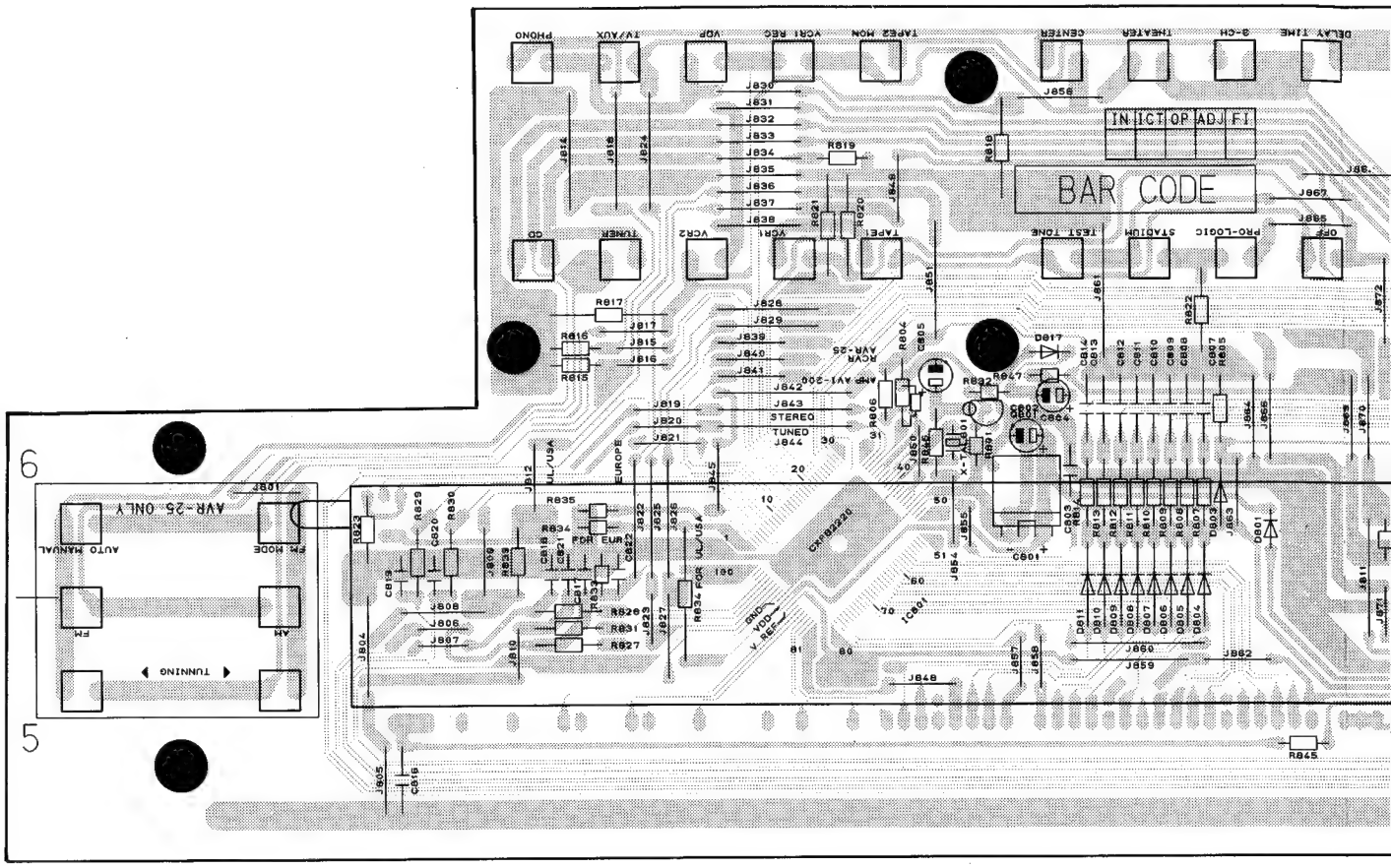
PCB8 (FRONT)



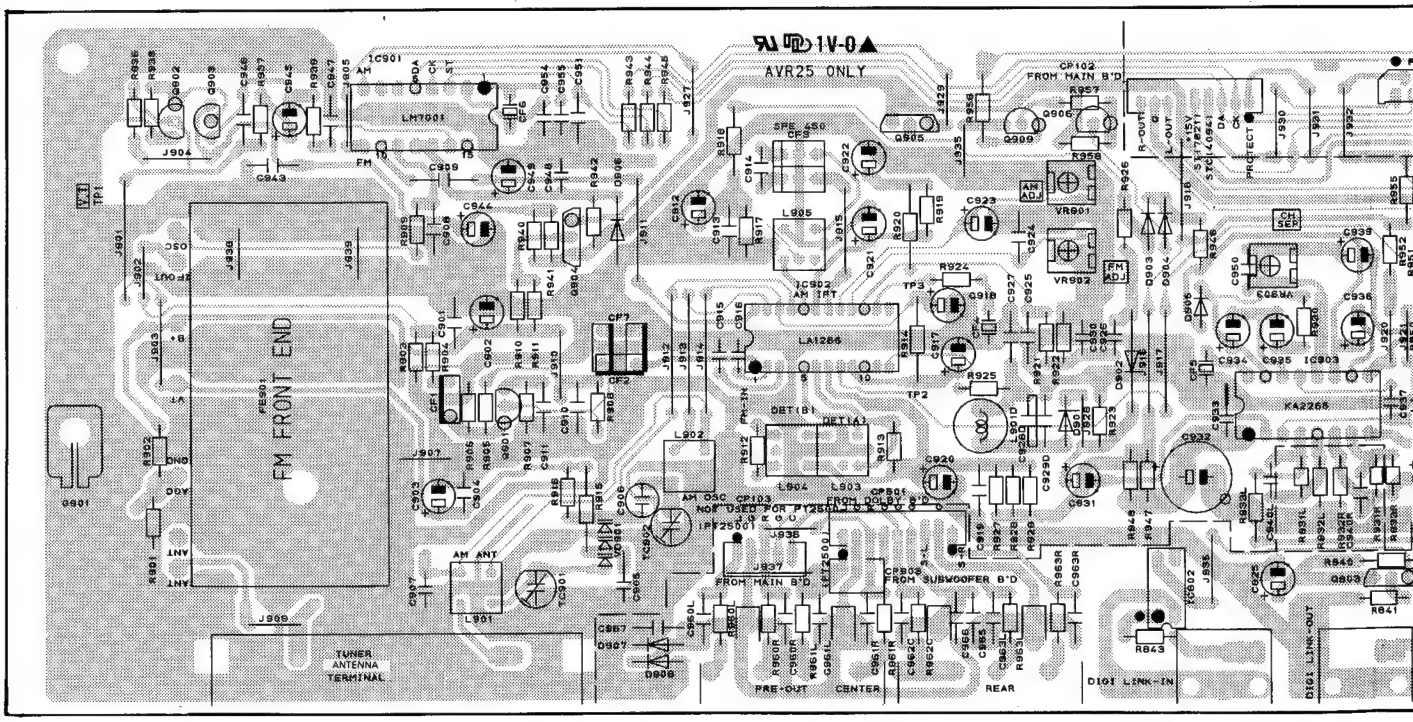
PCB9 (TUNER)

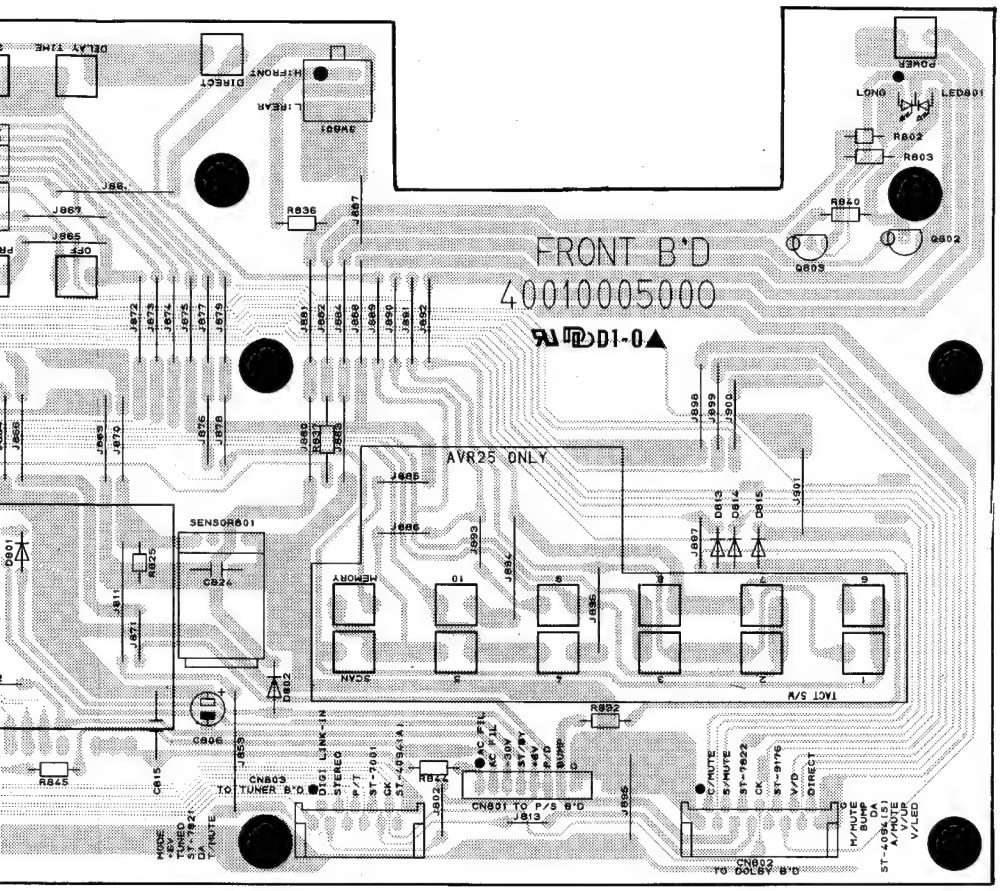


PCB8 (FRONT)

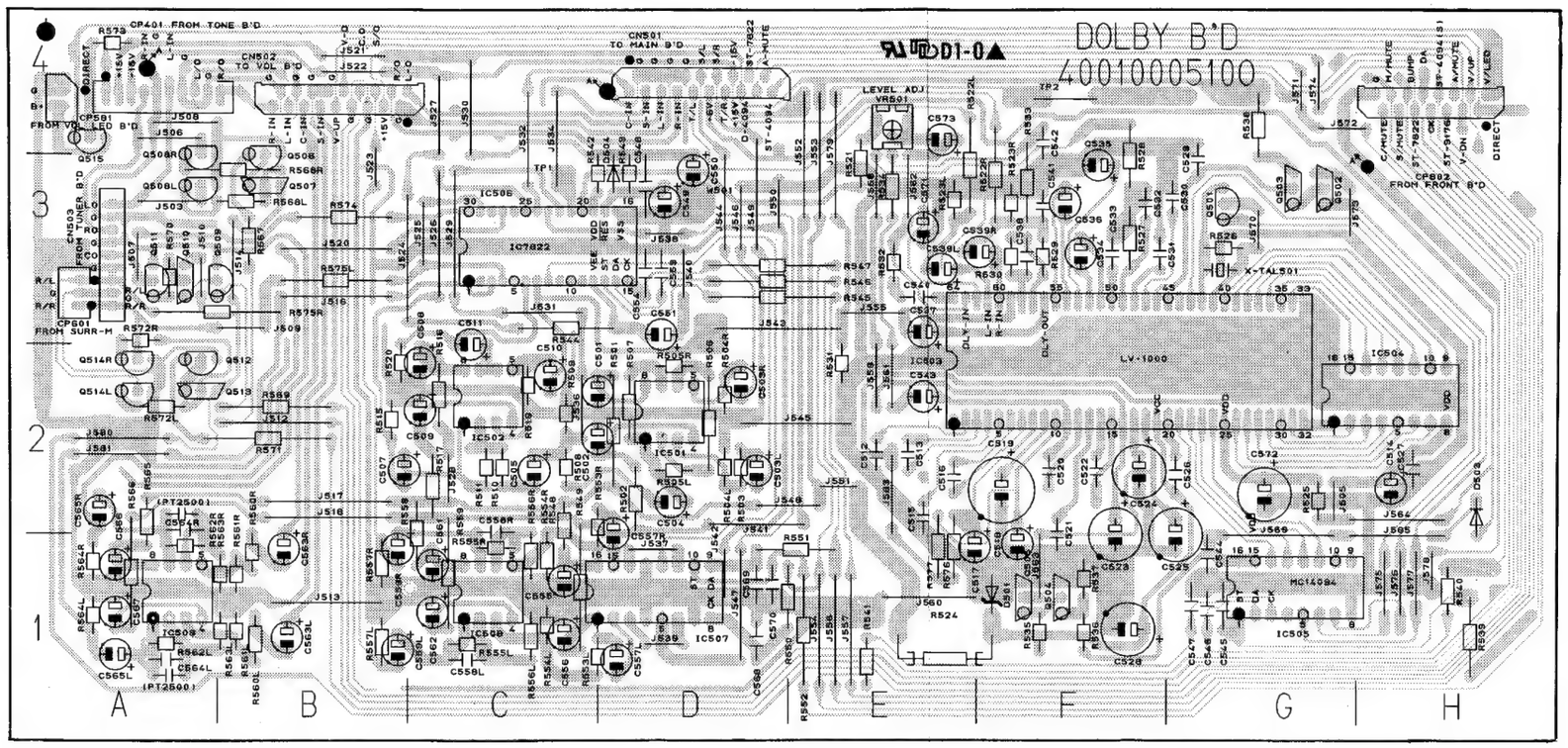


PCB9 (TUNER)

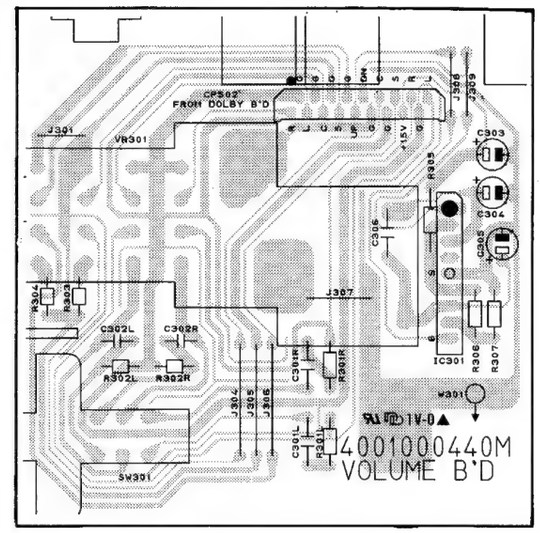



FRONT B'D
4001005000
D1-0
AVR25 ONLY
SEN50R601
TUNER B'D
4001000400M
BAR CODE
ONLY FOR AVR25/AVI200
NOT USED FOR PT2500

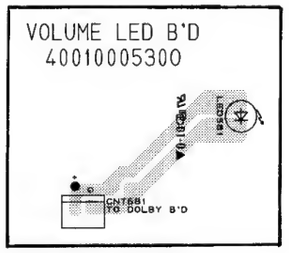
PCB5 (DOLBY)



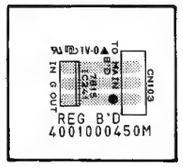
PCB3 (VOLUME)



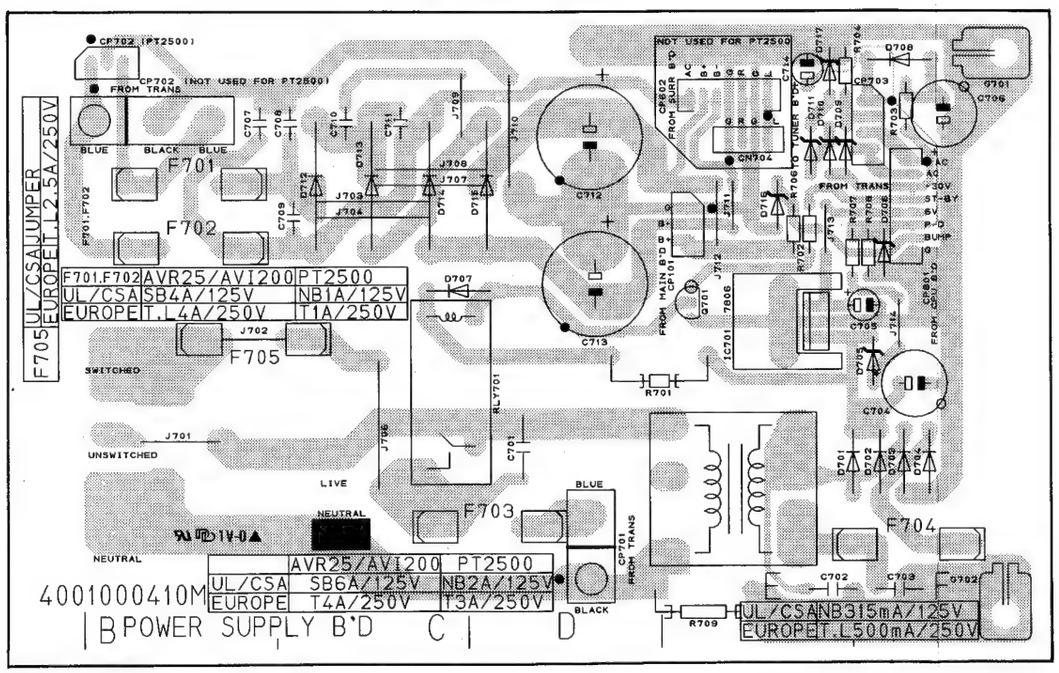
PCB6 (VOLUME LED)



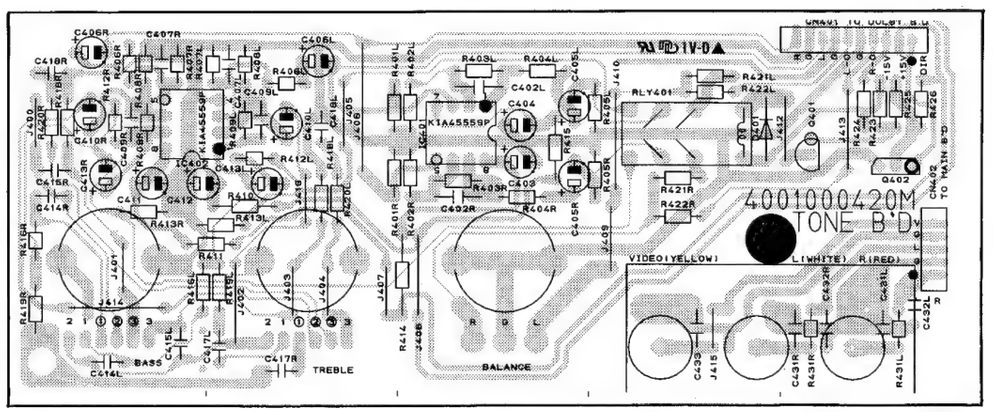
PCB2 (REGULATOR)



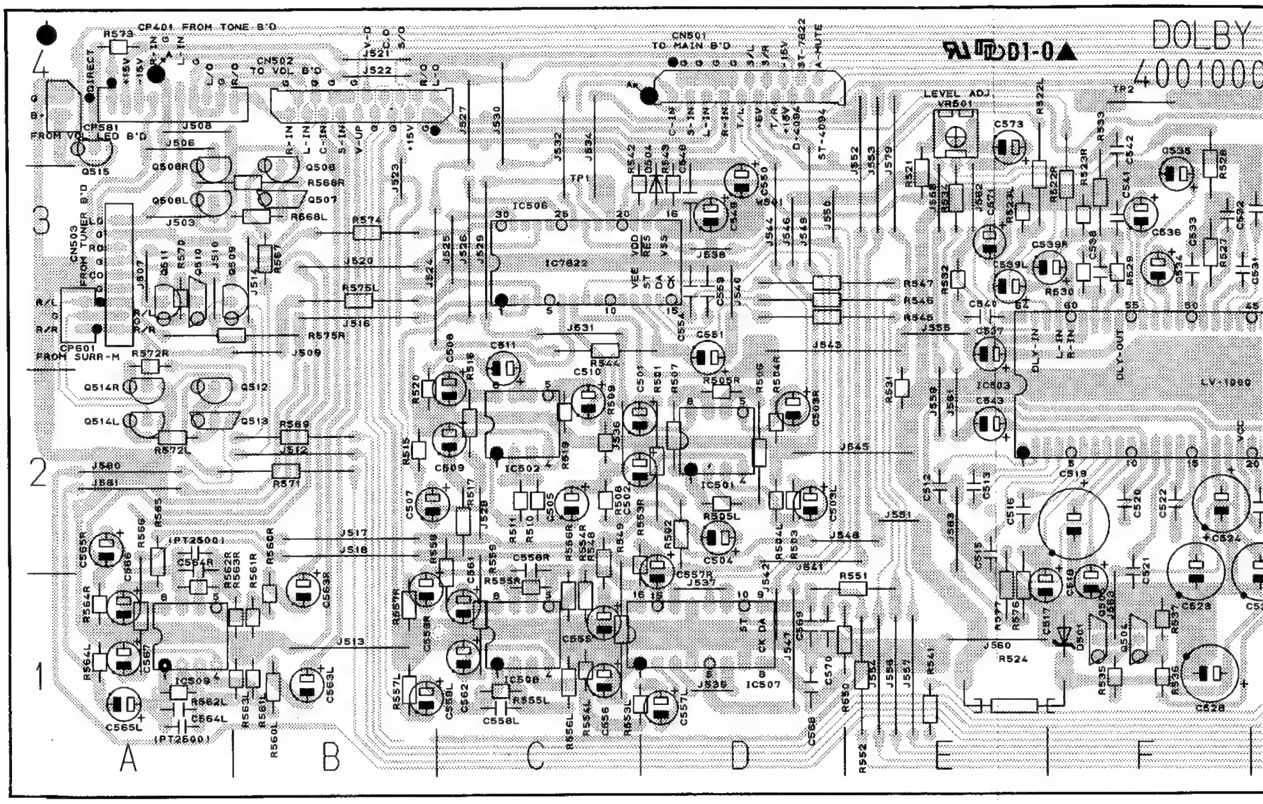
PCB7 (POWER SUPPLY)



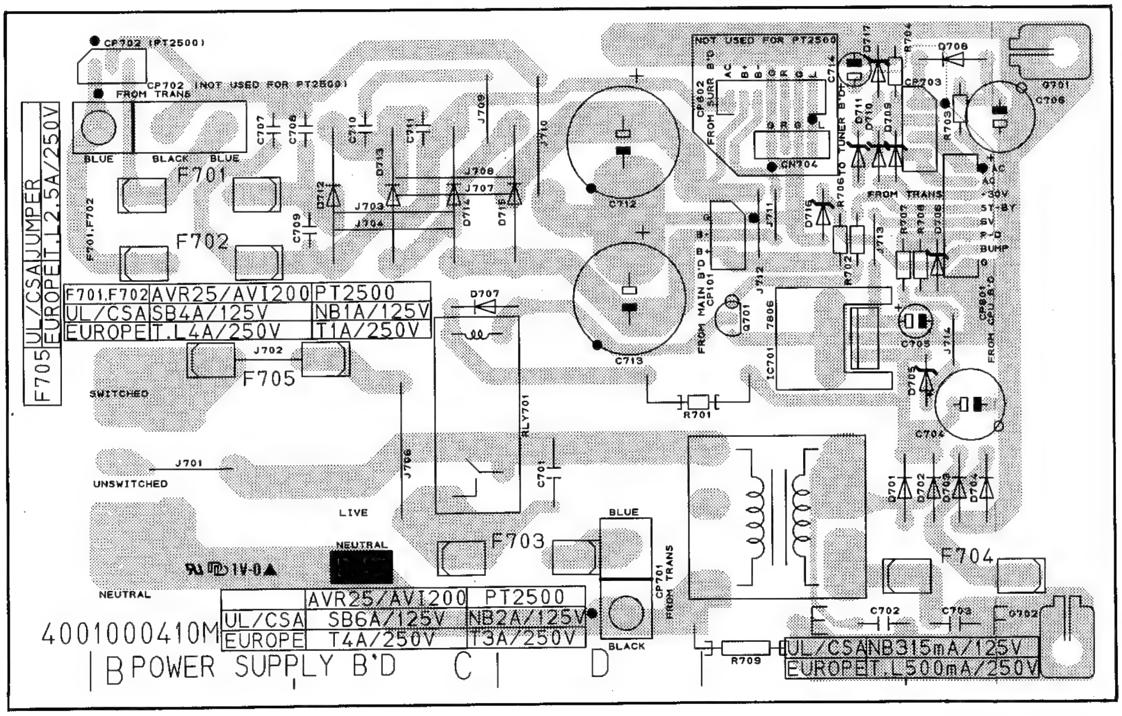
PCB4 (TONE)

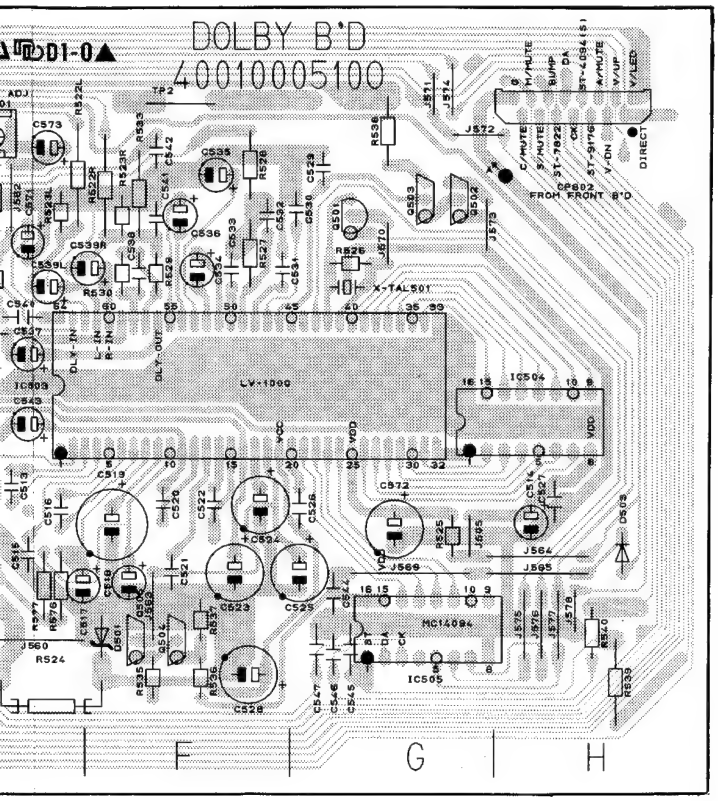


PCB5 (DOLBY)

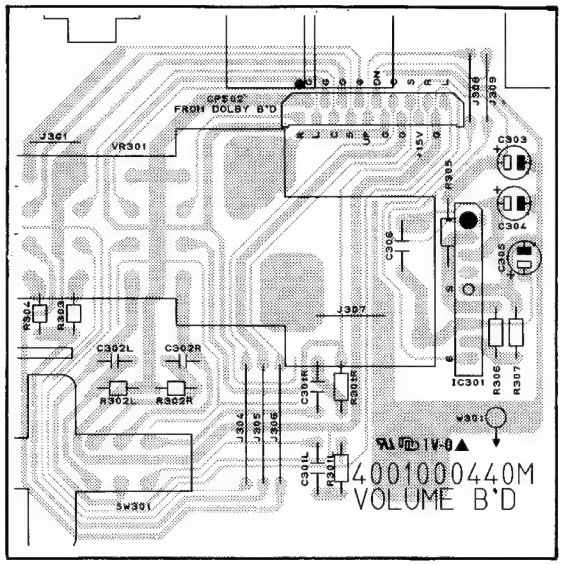


PCB7 (POWER SUPPLY)

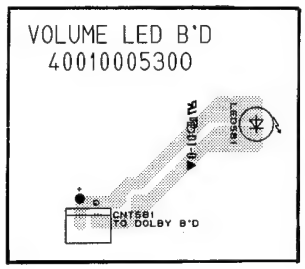




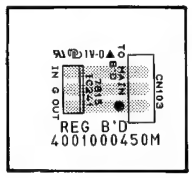
PCB3 (VOLUME)

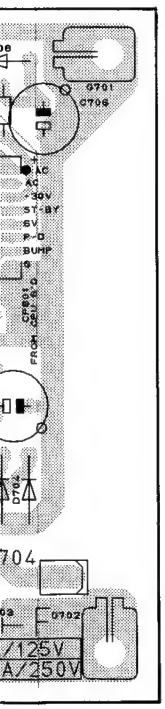


PCB6 (VOLUME LED)

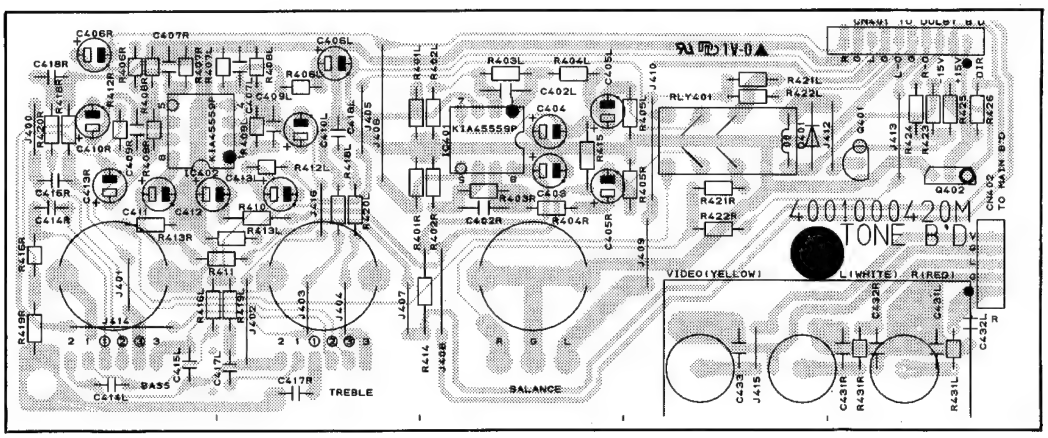


PCB2 (REGULATOR)





PCB4 (TONE)



ELECTRICAL PARTS LIST

REF. NO.	DESCRIPTION					MFR. PART NO.	Q'TY
PCB1	**ASSEMBLY P.C.BOARD MAIN**					**054002011728**	
	CAPACITORS						
C102L/R	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	2
C103L/R	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	2
C105L/R	ELECTROLYTIC SG	33	uF	25 V	M	3479333041	2
C106L/R	MYLAR	0.0018	uF	100 V	J	3679182120	2
C107L/R	MYLAR	0.0056	uF	100 V	J	3679562120	2
C108L/R	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	2
C109L/R	MYLAR	0.0018	uF	100 V	J	3679182120	2
C110/C111	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C112	CERAMIC DISC	0.01	uF	50 V	Z	3579103530	1
C140	ELECTROLYTIC SG	33	uF	25 V	M	3479333041	1
C141	ELECTROLYTIC SG	470	uF	10 V	M	3479347121	1
C142	ELECTROLYTIC SG	33	uF	25 V	M	3479333041	1
C143-C146	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	4
C147/C148	ELECTROLYTIC SG	33	uF	25 V	M	3479333041	2
C149	ELECTROLYTIC SG	2.2	uF	50 V	M	3479322971	1
C150-C153	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	4
C154	CERAMIC DISC	0.01	uF	50 V	Z	3579103530	1
C155	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	1
C156/C157	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C158	CERAMIC TUBULAR	1000	pF	50 V	J	3519102935	1
C159/C160	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	2
C161	CERAMIC TUBULAR	0.1	uF	50 V	Z	3519104935	1
C162L/R	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	2
C163/C164	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C165L/R	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	2
C166L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C167L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C168/C169	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C170/C171	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	2
C172	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	1
C173	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	1
C174	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	1
C175-C177	ELECTROLYTIC SG	470	uF	10 V	M	3479347121	3
C178	CERAMIC TUBULAR	0.1	uF	50 V	Z	3519104935	1
C179/C180	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C201/C202	ELECTROLYTIC SG	220	uF	10 V	M	3479322121	2
C203-C205	MYLAR	0.01	uF	100 V	J	3679103120	3
C206/C207	MYLAR	0.22	uF	63 V	J	3633224187	2
C208	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	1
C209-C212	MYLAR	0.1	uF	63 V	J	3633104187	4
C213/C214	POLY	680	pF	50 V	J	3619681110	2
C215	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	1
C216/C217	MYLAR	0.22	uF	63 V	J	3633224187	2
C218-C221	MYLAR	0.33	uF	63 V	J	3633334187	4
C222-C225	MYLAR	0.022	uF	100 V	J	3679223120	4
C226/C227	MYLAR	0.1	uF	63 V	J	3633104187	2
C228	ELECTROLYTIC SG	100	uF	10 V	M	3479310121	1
C229	ELECTROLYTIC AH	10	uF	50 V	M	3479210064	1
C230-C232	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	3
C233	CERAMIC DISC	0.01	uF	50 V	Z	3579103530	1
C248-C250	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	3
	CONNECTORS						
CN101	LEAD ASS'Y, 3P, 200 mm					436103203331	1
CN102	LEAD ASS'Y, 9P 100 mm					436209103332	1
CP402	PLUG, S-G1L-05P-S2T2					4428516410	1
CP501	PLUG, FPC-8370-19P					4428526310	1
CP103	PLUG, ST-5267-03P					4428505710	1
	DIODES						
D101-D103	1N4148M, SWITCHING					2058322101	3
D201/D202	ZENER, DZ 6.8BSC					2258599121	2
D203	1N4148M, SWITCHING					2058322101	1
	INTEGRATED CIRCUITS						
IC101/IC102	LC7821, AUDIO SIGNAL SWITCHING					2168017132	2
IC103	GD4052B, AUDIO SIGNAL SWITCHING					2138001114	1
IC104	BA7625, VIDEO SWITCHING					2168027106	1
IC105	MC14094BCP, SHIFT REGISTOR					2138009115	1
IC106	KIA4559P/KIA75559P, OP AMP					2168206104	1
IC107/IC108	NE5532N, OP AMP					2168299100	2
IC109	LC7822, AUDIO SIGNAL SWITCHING					2168017139	1
IC201	SSM-2126A, DOLBY DECODER					2168000122	1
IC202	MC14094BCP, SHIFT REGISTOR					2138009115	1
⚠ IC242	KA7806, REGULATOR					2168602106	1
⚠ IC243	KA7915, REGULATOR					2168602114	1
	TRANSISTORS						
Q101-Q103	BKTA1266Y/KTA1015Y, PNP					2208206105	3

REF. NO.	DESCRIPTION					MFR. PART NO.	Q'TY
	RESISTORS						
R101L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R102L/R	CARBON FILM	91	kohm	1/5 W	J	3069913970	2
R103L/R	CARBON FILM	91	kohm	1/5 W	J	3069913970	2
R104L/R	METAL FILM	750	ohm	1/5 W	J	3029751970	2
R105L/R	CARBON FILM	43	kohm	1/5 W	J	3069433970	2
R106L/R	CARBON FILM	560	kohm	1/5 W	J	3069564970	2
R107L/R	METAL FILM	560	ohm	1/5 W	J	3029561970	2
R108L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R109/R110	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R120L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R121L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R122L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R123L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R124L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R125L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R126L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R127L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R128L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R129L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R130L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R131L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
R132L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R133-R138	METAL FILM	75	ohm	1/5 W	J	3029750970	5
R139-R144	METAL FILM	100	ohm	1/5 W	J	3029101970	6
R145	METAL FILM	75	ohm	1/5 W	J	3029750970	1
R146	METAL FILM	10	ohm	1/5 W	J	3029100970	1
R147/R148	METAL FILM	100	ohm	1/5 W	J	3029101970	2
R149-R152	METAL FILM	3.3	kohm	1/5 W	J	3029332970	4
R153/R154	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R155	CARBON FILM	100	kohm	1/5 W	J	3069104970	1
R156/R157	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R161L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R162/R163	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R164L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R165L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R166/R167	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R168/R169	METAL FILM	100	ohm	1/5 W	J	3029101970	2
R170/R171	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R172	CARBON FILM	100	kohm	1/5 W	J	3069104970	1
R201/R202	METAL FILM	150	ohm	1 W	J	3029151470	2
R203-R205	CARBON FILM	22	kohm	1/5 W	J	3069223970	3
R206	CARBON FILM	10	Mohm	1/5 W	J	3069106970	1
R207	CARBON FILM	47	kohm	1/5 W	J	3069473970	1
R208	CARBON FILM	15	kohm	1/5 W	J	3069153970	1
R209/R210	CARBON FILM	7.5	kohm	1/5 W	J	3069752970	2
R211	CARBON FILM	47	kohm	1/5 W	J	3069473970	1
R212	CARBON FILM	15	kohm	1/5 W	J	3069153970	1
R214-R216	METAL FILM	1	kohm	1/5 W	J	3029102970	3
R241	METAL FILM	4.7	ohm	2 W	J	3029479572	1
R242/R243	METAL FILM	10	ohm	2 W	J	3029100570	2
R2500	METAL FILM	220	ohm	1/5 W	J	3029221970	1
	MISCELLANEOUS						
36	HEATSINK, REGULATOR TR.(15X45)					7505206220	1
37	HEATSINK, REGULATOR TR.(15X30)					7505202410	1
38	JACK RCA, 2P					4438108510	1
39	JACK RCA, 6P					4438108710	2
40	JACK RCA, 3P, JE0300390N					4438108830	4
41	JACK RCA, 2P					4438114210	1
42	PHONE JACK, YKB21-5130					4438112710	1
	TERMINAL GROUND					4235007310	2
	WIRE HI-WP #24BK FF140					152624101444	1
PCB2	**ASSEMBLY P.C.BOARD REGULATOR**					**054002011739**	
⚠ IC241	IC, KA7815, REGULATOR					2168602109	1
CN103	CNT, LEAD ASS'Y, 3P, 140mm					436103143331	1
PCB3	**ASSEMBLY P.C.BOARD VOLUME**					**054002011748**	
	CAPACITORS						
C301L/R	CERAMIC TUBULAR	470	pF	50 V	J	3519471935	2
C302L/R	MYLAR	0.33	uF	63 V	J	3679334297	2
C303	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	1
C304/C305	ELECTROLYTIC SG	100	uF	10 V	M	3479310121	2
C306	CERAMIC DISC	0.047	uF	50 V	Z	3579473530	1
	CONNECTOR						
CP502	PLUG, IL-FPC-A-18P					4428526305	1
	INTEGRATED CIRCUITS						
IC301	TA7291S, BRIDGE DRIVER					2168007204	1

REF. NO.	DESCRIPTION					MFR. PART NO.	Q'TY
	RESISTORS						
R301L/R	CARBON FILM	51	kohm	1/5 W	J	3069513970	2
R302L/R	METAL FILM	3.3	kohm	1/5 W	J	3029332970	2
R303/R304	METAL FILM	3.3	kohm	1/5 W	J	3029332970	2
R305	METAL FILM	33	ohm	1/5 W	J	3029330970	1
R306	CARBON FILM	15	kohm	1/5 W	J	3069153970	1
R307	CARBON FILM	4.7	kohm	1/5 W	J	3069472970	1
	MISCELLANEOUS						
W301	WIRE LUG #24BK140					152624101458	1
22	SWITCH, SPUL-12X1H091-SUE33					4628059610	1
23	VOLUME MOTOR, RK16314MC1R253B RM094					3228019410	1
PCB4	**ASSEMBLY P.C.BOARD TONE**					**054002011746**	
	CAPACITORS						
C402L/R	CERAMIC TUBULAR	22	pF	50 V	J	3519220935	2
C403/C404	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C405L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C406L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C407L/R	CERAMIC DISC	39	pF	50 V	J	3579390130	2
C408	NOT USED !						
C409L/R	CERAMIC TUBULAR	39	pF	50 V	J	3519390935	2
C410L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C411/C412	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C413L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C414L/R	MYLAR	0.015	uF	100 V	J	3679153120	2
C415L/R	MYLAR	0.082	uF	100 V	J	3679823120	2
C417L/R	MYLAR	0.0018	uF	100 V	J	3679182120	2
C418L/R	MYLAR	0.015	uF	100 V	J	3679153120	2
	CONNECTORS						
CN401	LEAD ASS'Y, 10P, 220 mm					436210223332	1
CN402	LEAD ASS'Y, 5P, 350 mm					436205353332	1
	DIODE						
D401	1N4148M, SWITCHING					2058322101	1
	INTEGRATED CIRCUITS						
IC401/IC402	NE5532N, OP AMP					2168299100	2
	TRANSISTORS						
Q401	BKTA1266Y/KTA1015Y, PNP					2208206105	1
Q402	DTC114YS					2208622106	1
	RESISTORS						
R401L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R402L/R	METAL FILM	820	ohm	1/5 W	J	3029821970	2
R403L/R	CARBON FILM	5.1	kohm	1/5 W	J	3069512970	2
R404L/R	METAL FILM	560	ohm	1/5 W	J	3029561970	2
R405L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R406L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R407L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R408L/R	CARBON FILM	82	kohm	1/5 W	J	3069823970	2
R409L/R	CARBON FILM	1	Mohm	1/5 W	J	3069105970	2
R410/R411	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R412L/R	METAL FILM	560	ohm	1/5 W	J	3029561970	2
R413L/R	CARBON FILM	100	kohm	1/5 W	J	3069104970	2
R414/R415	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R416L/R	CARBON FILM	22	kohm	1/5 W	J	3069223970	2
R417L/R	METAL FILM	3.3	kohm	1/5 W	J	3029332970	2
R418L/R	METAL FILM	3.6	kohm	1/5 W	J	3029362970	2
R419L/R	CARBON FILM	6.2	kohm	1/5 W	J	3069622970	2
R420L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R421L/R	METAL FILM	1.2	kohm	1/5 W	J	3029122970	2
R422L/R	METAL FILM	220	ohm	1/5 W	J	3029221970	2
R423	CARBON FILM	12	kohm	1/5 W	J	3069123970	1
R424	METAL FILM	100	ohm	1/5 W	J	3029101970	1
R425/R426	METAL FILM	3.6	kohm	1/5 W	J	3029362970	2
R431L/R	METAL FILM	470	ohm	1/5 W	J	3029471970	2
	MISCELLANEOUS						
⚠ RLY401	RELAY, G5V-2-H1					5528040001	1
19	VOLUME, RK16K128000114C RMD41					3208049510	2
20	VOLUME, RK16K118000114H RMM44					3208052010	1
21	JACK RCA, 3P					4438109710	1
PCB5	**ASSEMBLY P.C.BOARD DOLBY**					**054002011733**	
	CAPACITORS						
C501/C502	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C503L/R	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	2
C504	ELECTROLYTIC SG	3.3	uF	50 V	M	3479333971	1
C505	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	1

REF. NO.	DESCRIPTION					MFR. PART NO.	Q'TY
C507	ELECTROLYTIC SG	3.3	uF	50 V	M	3479333971	1
C508/C509	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C510	ELECTROLYTIC SG	2.2	uF	50 V	M	3479322971	1
C511	ELECTROLYTIC SG	3.3	uF	50 V	M	3479333971	1
C512	MYLAR	0.15	uF	63 V	J	3633154187	1
C513	CERAMIC DISC	150	pF	50 V	J	3579151130	1
C514	ELECTROLYTIC SG	220	uF	10 V	M	3479322121	1
C515	MYLAR	0.022	uF	100 V	J	3679223120	1
C516	POLY	680	pF	50 V	J	3619681110	1
C517	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	1
C518	ELECTROLYTIC SG	4.7	uF	50 V	M	3479347971	1
C519	ELECTROLYTIC SG	470	uF	10 V	M	3479347121	1
C520	POLY	680	pF	50 V	J	3619681110	1
C521	MYLAR	0.022	uF	100 V	J	3679223120	1
C522	CERAMIC DISC	150	pF	50 V	J	3579151130	1
C523-C525	ELECTROLYTIC SG	220	uF	16 V	M	3479322131	3
C526/C527	CERAMIC TUBULAR	0.1	uF	50 V	Z	3519104935	2
C528	ELECTROLYTIC SG	220	uF	16 V	M	3479322131	1
C529	MYLAR	0.22	uF	63 V	K	3679224297	1
C530	MYLAR	0.068	uF	100 V	J	3679683120	1
C531	MYLAR	0.0039	uF	100 V	J	3679392120	1
C532	MYLAR	0.0047	uF	100 V	J	3679472120	1
C533	MYLAR	0.033	uF	100 V	J	3679333120	1
C534	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	1
C535	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	1
C536/C537	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C538	CERAMIC TUBULAR	560	pF	50 V	J	3519561935	1
C539L/R	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	2
C540	CERAMIC TUBULAR	680	pF	50 V	J	3519681935	1
C541	MYLAR	0.0082	uF	100 V	J	3679822120	1
C542	MYLAR	0.0047	uF	100 V	J	3679472120	1
C543	ELECTROLYTIC SG	0.47	uF	50 V	M	3479347871	1
C544	CERAMIC TUBULAR	0.1	uF	50 V	Z	3519104935	1
C545-C547	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	3
C548	CERAMIC TUBULAR	0.01	uF	50 V	Z	3519103935	1
C549	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	1
C550/C551	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C553/C554	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	2
C555/C556	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C557L/R	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	2
C558L/R	CERAMIC TUBULAR	470	uF	50 V	Z	3519471935	2
C559L/R	ELECTROLYTIC SG	3.3	uF	50 V	M	3479333971	2
C561/C562	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C563L/R	ELECTROLYTIC SG	1	uF	50 V	M	3479310971	2
C564L/R	MYLAR	0.001	uF	100 V	J	3679102120	2
C565L/R	ELECTROLYTIC SG	3.3	uF	50 V	M	3479333971	2
C566/C567	ELECTROLYTIC SG	47	uF	25 V	M	3479347041	2
C568-C570	CERAMIC TUBULAR	100	pF	50 V	J	3519101935	3
C571	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	1
C572	ELECTROLYTIC SG	220	uF	16 V	M	3479322131	1
C573	ELECTROLYTIC SG	10	uF	50 V	M	3479310071	1
	CONNECTORS						
CN501	PLUG, FPC-8370-19P					4428526310	1
CN502	PLUG, IL-FPC-A-18P					4428526305	1
CN503	LEAD ASS'Y, 9P, 350 mm					436209353332	1
CP401	PLUG, S-G1L-10P-S2T2					4428516910	1
CP581	PLUG, ST-5267-02P					4428508210	1
CP802	PLUG, FPC-8370-15P					4428526270	1
	DIODES						
D501	ZENER, UZ 12.0BSC					2258599116	1
D502-D504	1N4148M, SWITCHING					2058322101	3
	INTEGRATED CIRCUITS						
IC501/IC502	NE5532N, OP AMP					2168299100	2
IC503	LV-1000NA, TIME DELAY DEVICE					2168017142	1
IC504	uPD61256, DRAM					2138430001	1
IC505	MC14094BCP, SHIFT REGISTOR					2138009115	1
IC506	LC7822, AUDIO SIGNAL SWITCHING					2168017139	1
IC507	TC9176P, ELECTRIC VOLUME					2138007124	1
IC508/IC509	NE5532N, OP AMP					2168299100	2
	TRANSISTORS						
Q501	BKTA1266Y/KTA1015Y, PNP					2208206105	1
Q502	DTC114YS					2208622106	1
Q503	KRA107M/DTA114YS, PNP					2238006103	1
Q504/Q505	DTC114YS					2208622106	2
Q506	KTC3198Y/KTC1815Y, NPN					2208606104	1
Q507	KRA107M/DTA114YS, PNP					2238006103	1
Q508L/R	KTD1302, NPN					2208606112	2
Q509	KTC3198Y/KTC1815Y, NPN					2208606104	1
Q510	KRA107M/DTA114YS, PNP					2238006103	1
Q511	KTD1302, NPN					2208606112	1

REF. NO.	DESCRIPTION	MFR. PART NO.	Q'TY
Q512	KTC3198Y/KTC1815Y, NPN	2208606104	1
Q513	KRA107M/DTA114YS, PNP	2238006103	1
Q514L/R	KTD1302, NPN	2208606112	2
Q515	KTC3198Y/KTC1815Y, NPN	2208606104	1
	RESISTORS		
R501/R502	METAL FILM 100 ohm 1/5 W J	3029101970	2
R503	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R504L	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R504R	CARBON FILM 22 kohm 1/5 W J	3069223970	1
R505L/R	CARBON FILM 22 kohm 1/5 W J	3069223970	2
R506	CARBON FILM 22 kohm 1/5 W J	3069223970	1
R507	METAL FILM 1.5 kohm 1/5 W J	3029152970	1
R508	METAL FILM 750 ohm 1/5 W J	3029751970	1
R509	METAL FILM 1.8 kohm 1/5 W J	3029182970	1
R510	METAL FILM 3.9 kohm 1/5 W J	3029392970	1
R511	METAL FILM 4.7 kohm 1/5 W J	3029472970	1
R515	METAL FILM 3.3 kohm 1/5 W J	3029332970	1
R516/R517	METAL FILM 100 ohm 1/5 W J	3029101970	2
R519	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R520	CARBON FILM 100 kohm 1/5 W J	3069104970	1
R521	METAL FILM 3.9 kohm 1/5 W J	3029392970	1
R522L/R	CARBON FILM 6.8 kohm 1/5 W J	3069682970	2
R523L/R	CARBON FILM 100 kohm 1/5 W J	3069104970	2
R524	METAL FILM 56 ohm 1 W J	3029560470	1
R525	METAL FILM 56 ohm 1/5 W J	3029560970	1
R526	CARBON FILM 1 Mohm 1/5 W J	3069105970	1
R527	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R528	METAL FILM 3.3 kohm 1/5 W J	3029332970	1
R529	CARBON FILM 15 kohm 1/5 W J	3069153970	1
R530	CARBON FILM 8.2 kohm 1/5 W J	3069822970	1
R531	CARBON FILM 100 kohm 1/5 W J	3069104970	1
R532	CARBON FILM 39 kohm 1/5 W J	3069393970	1
R533/R534	CARBON FILM 8.2 kohm 1/5 W J	3069822970	2
R535	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R536	CARBON FILM 5.6 kohm 1/5 W J	3069562970	1
R537	METAL FILM 1 kohm 1/5 W J	3029102970	1
R538	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R539-R541	METAL FILM 1 kohm 1/5 W J	3029102970	3
R542	METAL FILM 220 ohm 1/5 W J	3029221970	1
R543	CARBON FILM 100 kohm 1/5 W J	3069104970	1
R544	METAL FILM 220 ohm 1/5 W J	3029221970	1
R545-R547	METAL FILM 1 kohm 1/5 W J	3029102970	3
R548/R549	METAL FILM 220 ohm 1/5 W J	3029221970	2
R550-R552	METAL FILM 1 kohm 1/5 W J	3029102970	3
R553L/R	METAL FILM 680 ohm 1/5 W J	3029681970	2
R554L/R	CARBON FILM 1 Mohm 1/5 W J	3069105970	2
R555L/R	CARBON FILM 10 kohm 1/5 W J	3069103970	2
R556L/R	METAL FILM 2.2 kohm 1/5 W J	3029222970	2
R557L/R	CARBON FILM 2 kohm 1/5 W J	3069202970	2
R558/R559	METAL FILM 100 ohm 1/5 W J	3029101970	2
R560L/R	METAL FILM 680 ohm 1/5 W J	3029681970	2
R561L/R	CARBON FILM 1 Mohm 1/5 W J	3069105970	2
R562L/R	METAL FILM 4.7 kohm 1/5 W J	3029472970	2
R563L/R	METAL FILM 1.5 kohm 1/5 W J	3029152970	2
R564L/R	CARBON FILM 2 kohm 1/5 W J	3069202970	2
R565/R566	METAL FILM 100 ohm 1/5 W J	3029101970	2
R567	METAL FILM 2.2 kohm 1/5 W J	3029222970	1
R568L/R	METAL FILM 2.2 kohm 1/5 W J	3029222970	2
R569-R571	METAL FILM 2.2 kohm 1/5 W J	3029222970	3
R572L/R	METAL FILM 2.2 kohm 1/5 W J	3029222970	2
R573	METAL FILM 820 ohm 1/5 W J	3029821970	1
R574	METAL FILM 2.2 kohm 1/5 W J	3029202970	1
R575L/R	METAL FILM 2.2 kohm 1/5 W J	3029202970	2
R576/R577	CARBON FILM 220 kohm 1/5 W J	3069224970	2
	SEMI FIXED RESISTOR		
VR501	SEMI, EVN-DCAA03B14	3248010353	1
	MISCELLANEOUS		
X-TAL501	RESONATOR, CST8.00MTW-TF01	3938124009	1
	WIRE HI-WP #24BK FF120	152624101244	1
	WIRE LUG #24BK140	152624101458	1

PCB6	ASSEMBLY P.C.BOARD VOLUME LED	054002011737	
CNT581	CNT, LEAD ASS'Y, 2P, 140mm	435102143481	1
LED581	LED, SLR40MG3	2308220324	1

PCB7	ASSEMBLY P.C.B POWER SUPPLY	054002011744	
	CAPACITORS		
C701	CERAMIC DISC 0.0047 uF 400 V Z	3549472108	1
C702/C703	CERAMIC TUBULAR 0.047 uF 50 V Z	3519473935	2

REF. NO.	DESCRIPTION	MFR. PART NO.	Q'TY
C704	ELECTROLYTIC SG 1000 uF 16 V M		1
C705	ELECTROLYTIC SG 1 uF 50 V M	3479310971	1
C706	ELECTROLYTIC SG 100 uF 50 V M	3479310171	1
C707-C711	MYLAR 0.047 uF 100 V J	3679473120	5
C712	ELECTROLYTIC SG 1000 uF 35 V M	3409310269	1
C713	ELECTROLYTIC SG 1000 uF 35 V M	3409310269	1
	CONNECTORS		
CP101	PLUG, ST-5267-03P	4428505710	1
CP701	PLUG, AC S-2P	4428525780	1
CP702	PLUG, ST-5267-03P	4428505710	1
CP703	PLUG, ST-5267-04P	4428505610	1
CP801	PLUG, G-G1L-08P-S2T2	4428516710	1
	DIODES		
⚠ D701-D704	1N4002, RECTIFIER	2258100135	4
D705/D706	ZENER, UZ 5.1BSB	2258599103	2
D707/D708	1N4002, RECTIFIER	2258100135	2
D709	ZENER, UZ 7.5BSC	2258599130	1
D710/D711	ZENER, UZ 9.1BSC	2258599107	2
⚠ D712-D715	1N5402, RECTIFIER	2058100136	4
D716	ZENER, UZ 5.1BSB	2258599103	1
D717	ZENER, UZ 9.1BSC	2258599107	1
	INTEGRATED CIRCUIT		
⚠ IC701	KA7806, REGULATOR	2168602106	1
	TRANSISTOR		
Q701	KTC3206Y, NPN	2208606118	1
	RESISTORS		
R701	METAL FILM 10 ohm 1 W J	3029100470	1
R702	CARBON FILM 2 kohm 1/5 W J	3069202970	1
R703	METAL FILM 330 ohm 1/5 W J	3029331970	1
R704	CARBON FILM 15 kohm 1/5 W J	3069153970	1
R706	CARBON FILM 6.8 kohm 1/5 W J	3069682970	1
R707	METAL FILM 1 kohm 1/5 W J	3029102970	1
R708	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R709	ERC-12UGK335 3.3 Mohm 1/2 W J	3029335380	1
	FUSES		
⚠ F701	GMA 1A, 125V	5508202021	1
⚠ F702	GMA 1A, 125V	5508202021	1
⚠ F703	GMA 2A, 125V	5508202421	1
⚠ F704	GMA 315mA 125V	5508201421	1
	MISCELLANEOUS		
RLY701	RELAY, HR-CR313 (TV-8)	5528042002	1
G701	TERMINAL GROUND	4235007310	1
G702	TERMINAL GROUND	4235007310	1
53	HEATSINK, REGULATOR TR.(15X30)	7505206210	1
55	⚠ AC OUTLET, CCT1306-0212	4448102910	1
	⚠ ST-BY TRANS, 120V, 60Hz	2828089007	1
	PIN SOLDER	4228001410	2
	CLIP FUSE	4255001010	8

PCB8	ASSEMBLY P.C.BOARD FRONT	054002011731	
	CAPACITORS		
C801	ELECTROLYTIC 0.047 F 5.5 V	3438247315	1
C802	ELECTROLYTIC SG 47 uF 25 V M	3479347041	1
C803	CERAMIC TUBULAR 0.1 uF 50 V Z	3519104935	1
C804	ELECTROLYTIC SG 10 uF 50 V M	3479310071	1
C805	ELECTROLYTIC SG 0.1 uF 50 V M	3479310871	1
C806	ELECTROLYTIC SG 33 uF 25 V M	3479333041	1
C807-C814	CERAMIC TUBULAR 100 pF 50 V J	3519101935	8
C815/C816	CERAMIC TUBULAR 0.047 uF 50 V Z	3519473935	2
C817-C821	CERAMIC TUBULAR 100 pF 50 V J	3519101935	5
C822	CERAMIC TUBULAR 0.1 uF 50 V Z	3519104935	1
C824	CERAMIC TUBULAR 0.1 uF 50 V Z	3519104935	1
	CONNECTORS		
CN801	LEAD ASS'Y, 8P 350 mm	436208353332	1
CN802	PLUG, FPC-8370-15P	4428526690	1
CN803	PLUG, IL-FPC-B-12P	4428526246	1
	DIODES		
D801-D816	1N4148M, SWITCHING	2058322101	6
LED801	LED, SPR54MDW3, GREEN/AMBER	2308222205	1
	INTEGRATED CIRCUIT		
IC801	CXP82220-107Q, CPU	2138322182	1

REF. NO.	DESCRIPTION	MFR. PART NO.	Q'TY
	TRANSISTORS		
Q801	MPSA06Y, NPN	2208606114	1
Q802	KTC3198Y/KTC1815Y, NPN	2208606104	1
Q803	KRA107M/DTA114YS, PNP	2238006103	1
	RESISTORS		
R801	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R802	METAL FILM 180 ohm 1/5 W J	3029181970	1
R803	METAL FILM 150 ohm 1/5 W J	3029151970	1
R804	CARBON FILM 22 kohm 1/5 W J	3069223970	1
R805	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R806	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R807-R814	METAL FILM 1 kohm 1/5 W J	3029102970	8
R815-R822	CARBON FILM 47 kohm 1/5 W J	3069473970	8
R823	CARBON FILM 220 kohm 1/5 W J	3069224970	1
R825	METAL FILM 3.3 kohm 1/5 W J	3029332970	1
R827-R831	METAL FILM 100 ohm 1/5 W J	3029101970	5
R832	METAL FILM 1 kohm 1/5 W J	3029102970	1
R834/R835	CARBON FILM 47 kohm 1/5 W J	3069473970	2
R836	METAL FILM 470 ohm 1/5 W J	3029471970	1
R837	METAL FILM 1 kohm 1/5 W J	3029102970	1
R838	METAL FILM 330 ohm 1/5 W J	3029331970	1
R839	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R844/R845	METAL FILM 3.3 ohm 1/5 W J	3029339970	2
	RESONATOR		
X-TAL801	RESONATOR, CST10.00MTW-TF01	3938124010	1
	MISCELLANEOUS		
14	SPONGE RUBBER	6715020730	1
24	SWITCH, SPEA-122SC011-SU504	4628054410	1
25	SWITCH, SKHV10910D01-KB581	4658003710	38
26	REMOTE SENSOR, TFMT5380 (38 kHz)	2408005001	1
27	FL DISPLAY, FIP12LM8	2328130301	1

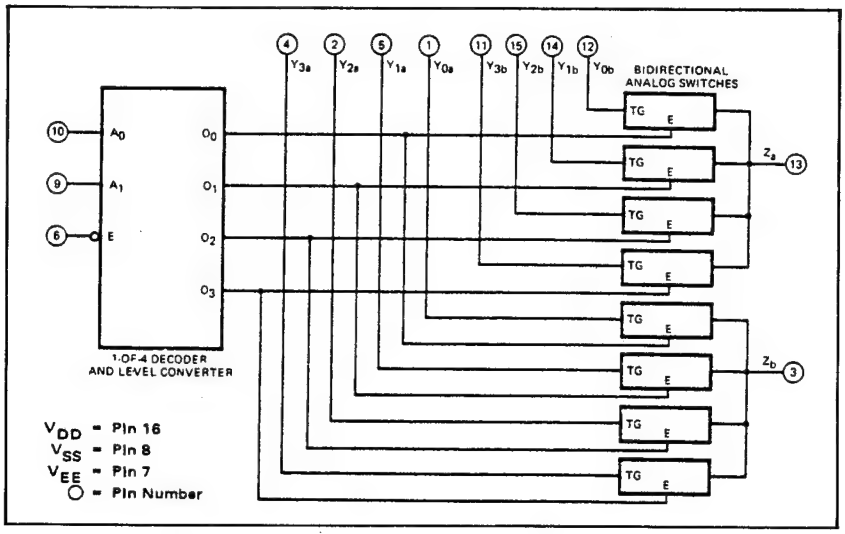
PCB9	ASSEMBLY P.C.BOARD TUNER	054002011742	
	CAPACITORS		
C825	ELECTROLYTIC SG 47 uF 25 V M	3479347041	1
C901	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C902	ELECTROLYTIC SG 100 uF 16 V M	3479310131	1
C903	ELECTROLYTIC SG 0.47 uF 50 V M	3479347871	1
C904	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C905	CERAMIC TUBULAR 2200 uF 16 V Z	3519222915	1
C906	POLY 470 pF 50 V J	3619471110	1
C907	CERAMIC TUBULAR 2200 uF 16 V Z	3519222915	1
C908	CERAMIC TUBULAR 10 pF 50 V J	3519100935	1
C909	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C910/C911	CERAMIC TUBULAR 2200 uF 16 V Z	3519222915	2
C912	ELECTROLYTIC SG 4.7 uF 50 V M	3479347971	1
C913	CERAMIC TUBULAR 2200 uF 16 V Z	3519222915	1
C914	CERAMIC TUBULAR 47 pF 50 V J	3519470935	1
C915/C916	CERAMIC DISC 0.047 uF 50 V Z	3579473530	2
C917	ELECTROLYTIC SG 2.2 uF 50 V M	3479322971	1
C918	ELECTROLYTIC SG 4.7 uF 50 V M	3479347971	1
C919	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C920	ELECTROLYTIC SG 47 uF 25 V M	3479347041	1
C921	ELECTROLYTIC SG 2.2 uF 50 V M	3479322971	1
C922	ELECTROLYTIC SG 3.3 uF 50 V M	3479333971	1
C923	ELECTROLYTIC SG 10 uF 50 V M	3479310071	1
C924	CERAMIC TUBULAR 0.047 uF 50 V Z	3519473935	1
C925	CERAMIC TUBULAR 330 pF 50 V J	3519331935	1
C926	MYLAR 0.047 uF 100 V J	3679473120	1
C927	CERAMIC TUBULAR 330 pF 50 V J	3519331935	1
C931	ELECTROLYTIC SG 4.7 uF 50 V M	3479347971	1
C932	ELECTROLYTIC SG 220 uF 16 V M	3479322131	1
C933	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C934/C935	ELECTROLYTIC SG 0.47 uF 50 V M	3479347871	2
C936	ELECTROLYTIC SG 1 uF 50 V M	3479310971	1
C937	MYLAR 0.047 uF 100 V J	3679473120	1
C938	CERAMIC TUBULAR 680 pF 50 V J	3519681935	1
C939	ELECTROLYTIC SG 10 uF 50 V M	3479310071	1
C940L/R	POLY 390 pF 50 V J	3619391110	2
C941L/R	ELECTROLYTIC SG 2.2 uF 50 V M	3479322971	2
C943	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	1
C944	ELECTROLYTIC SG 47 uF 25 V M	3479347041	1
C945	ELECTROLYTIC SG 1 uF 50 V M	3479310971	1
C946	CERAMIC TUBULAR 2200 uF 16 V Z	3519222915	1
C947/C948	CERAMIC TUBULAR 0.01 uF 50 V Z	3519103935	2
C949	ELECTROLYTIC SG 47 uF 25 V M	3479347041	1
C950	CERAMIC TUBULAR 270 pF 50 V J	3519271935	1
C951	CERAMIC TUBULAR 100 pF 50 V J	3519101935	1
C954/C955	CERAMIC DISC (CH) 18 pF 50 V J	3528180210	2
C965-C967	CERAMIC TUBULAR 0.1 uF 50 V Z	3519104935	3

REF. NO.	DESCRIPTION	MFR. PART NO.	Q'TY
TC901	TRIMMER, 20P	3838001160	1
TC902	TRIMMER, 10P	3838001150	1
	FILTERS		
CF1/CF2	CERAMIC, SFE 10.7MS3GH-ATF21	3978011011	2
CF3	CERAMIC, SFZ450B	3908001150	1
CF4	CERAMIC, BFU450C4N	3908001020	1
CF5	RESONATOR, CSB456F11	3938001009	1
CF6	X-TAL, HC49U T 7.2MHZ CL12PF	3938223003	1
	CONNECTORS		
CP102	PLUG, GIL-09P-S2L2-EF	4428525590	1
CP501	PLUG, S-G1L-09P-S2T2	4428516810	1
CP803	PLUG, IL-FPC-A-12P	4428526245	1
	DIODES		
D817	1N4148M, SWITCHING	2058322101	1
D901-D905	1N4148M, SWITCHING	2058322101	5
D906	ZENER, UZ 5.1BSB	2258599103	1
D907-D908	1N4148M, SWITCHING	2058322101	2
VD901	VARACTOR, KV1236Z	2058819106	1
	INTEGRATED CIRCUITS		
IC802	LTV817, PHOTO-COUPLER	2408000136	1
IC901	LM7001, PLL	2138017112	1
IC902	LA1266, AM/FM IF	2168017128	1
IC903	LA3410, MPX	2168417117	1
	COILS		
L906L/R	FILTER, MPX, BLACK	2658001050	2
L901	AM ANT	2608201120	1
L902	AM OSC	2638201150	1
L903	DET (A) FM, K5713FKG	2628000100	1
L904	DET (B) FM, K5714X	2628000110	1
L905	AM IFT, P-7SB	2848001250	1
	TRANSISTORS		
Q901	KTC1923Y/KTC3194Y, NPN	2208406103	1
Q902	KTC2240BL/KTC3200, NPN	2208606108	1
Q903	FET, 2SK168D, N-CH.	2218211100	1
Q904/Q905	KRA107M/DTA114YS, PNP	2238006103	2
Q906	BKTA1266Y/KTA1015Y, PNP	2208206105	1
Q907	KRA107M/DTA114YS, PNP	2238006103	1
Q908L/R	KTD1302, NPN	2208606112	2
Q909	KTC3198Y/KTC1815Y, NPN	2208606104	1
	RESISTORS		
R840	METAL FILM 100 ohm 1/5 W J	3029101970	1
R841	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R842	METAL FILM 47 ohm 1/5 W J	3029470970	1
R843	CARBON FILM 270 ohm 1/5 W J	3069271970	1
R844	METAL FILM 3.9 kohm 1/5 W J	3029392970	1
R901	CARBON FILM 56 kohm 1/5 W J	3069563970	1
R902	CARBON FILM 100 kohm 1/5 W J	3069104970	1
R903	METAL FILM 560 ohm 1/5 W J	3029561970	1
R904	METAL FILM 180 ohm 1/5 W J	3029181970	1
R905	METAL FILM 3.3 kohm 1/5 W J	3029332970	1
R906	METAL FILM 470 ohm 1/5 W J	3029471970	1
R907/R908	METAL FILM 330 ohm 1/5 W J	3029331970	2
R909	METAL FILM 560 ohm 1/5 W J	3029561970	1
R910/R911	METAL FILM 180 ohm 1/5 W J	3029181970	2
R912	METAL FILM 3.3 kohm 1/5 W J	3029332970	1
R913	CARBON FILM 5.6 kohm 1/5 W J	3069562970	1
R914	CARBON FILM 47 kohm 1/5 W J	3069473970	1
R915/R916	CARBON FILM 100 kohm 1/5 W J	3069104970	2
R917	CARBON FILM 68 kohm 1/5 W J	3069683970	1
R918	CARBON FILM 43 kohm 1/5 W J	3069432970	1
R919	CARBON FILM 10 kohm 1/5 W J	3069103970	1
R920	CARBON FILM 24 kohm 1/5 W J	3069243970	1
R921	CARBON FILM 6.8 kohm 1/5 W J	3069682970	1
R924	METAL FILM 82 ohm 1/5 W J	3029820970	1
R925	METAL FILM 1.8 kohm 1/5 W J	3029182970	1
R926	CARBON FILM 100 kohm 1/5 W J	3069104970	1
R927-R929	METAL FILM 330 ohm 1/5 W J	3029331970	3
R930	METAL FILM 1 kohm 1/5 W J	3029102970	1
R931L/R	CARBON FILM 180 kohm 1/5 W J	3069184970	2
R932L/R	CARBON FILM 150 kohm 1/5 W J	3069154970	2
R933L/R	METAL FILM 3.3 kohm 1/5 W J	3029332970	2
R934L/R	METAL FILM 3.3 kohm 1/5 W J	3029332970	2
R935L/R	METAL FILM 3.3 kohm 1/5 W J	3029332970	2
R936	METAL FILM 1 kohm 1/5 W J	3029102970	1
R937	METAL FILM 1.5 kohm 1/5 W J	3029152970	1
R938	METAL FILM 82 ohm 1/5 W J	3029820970	1
R939	METAL FILM 820 ohm 1/5 W J	3029821970	1

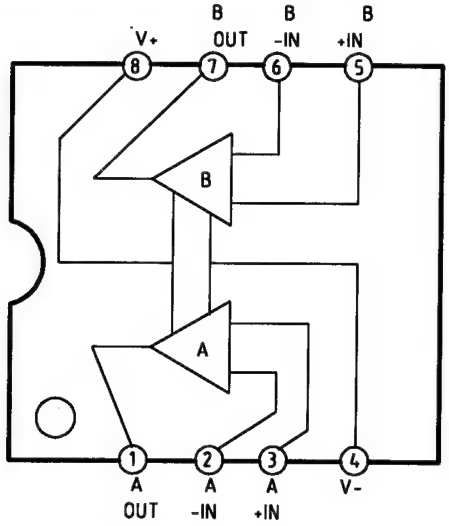
REF. NO.	DESCRIPTION					MFR. PART NO.	Q'TY
R940-R942	METAL FILM	330	ohm	1/5 W	J	3029331970	3
R943-R945	METAL FILM	100	ohm	1/5 W	J	3029101970	3
R946	METAL FILM	2.7	kohm	1/5 W	J	3029272970	1
R947/R948	CARBON FILM	270	ohm	1/5 W	J	3069271970	2
R949/R950	METAL FILM	4.7	kohm	1/5 W	J	3029472970	2
R951/R952	CARBON FILM	10	kohm	1/5 W	J	3069103970	2
R955	CARBON FILM	100	kohm	1/5 W	J	3069104970	1
R956	METAL FILM	3.3	kohm	1/5 W	J	3029332970	1
R957	CARBON FILM	47	kohm	1/5 W	J	3069473970	1
R958	CARBON FILM	10	kohm	1/5 W	J	3069103970	1
R960L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R961L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
R962C	METAL FILM	1	kohm	1/5 W	J	3029102970	1
R963L/R	METAL FILM	1	kohm	1/5 W	J	3029102970	2
	SEMI FIXED RESISTORS						
VR901	SEMI, EVN-DJAA03B54					3248050343	1
VR902	SEMI, EVN-DJAA03B54					3248050343	1
VR903	SEMI, EVM-DJAA03B25					3248020443	1
	MISCELLANEOUS						
FE901	FM TUNER, FE407-A15					3928801970	1
G901	TERMINAL GROUND					4235007310	1
43	JACK, HSJ0912-01-052					4438006510	2
44	JACK RCA, 4P					4438108610	2
45	TERMINAL ANTENNA					4408108320	1

IC FUNCTIONAL BLOCK DIAGRAM

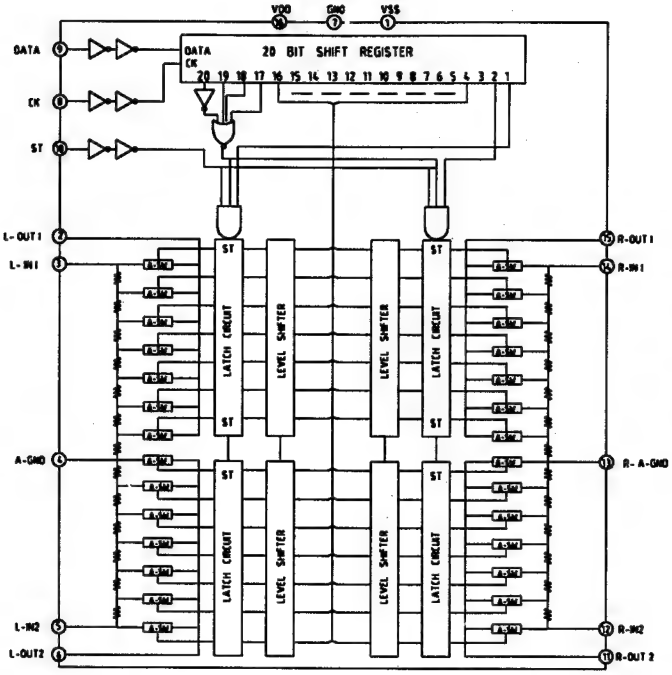
GD4052B : IC103 (Audio Signal Switching)



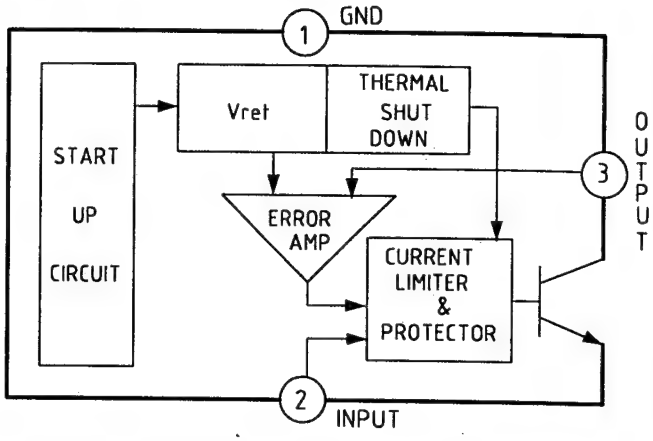
KIA4559P/KIA75559P : IC106 (OP-Amp)



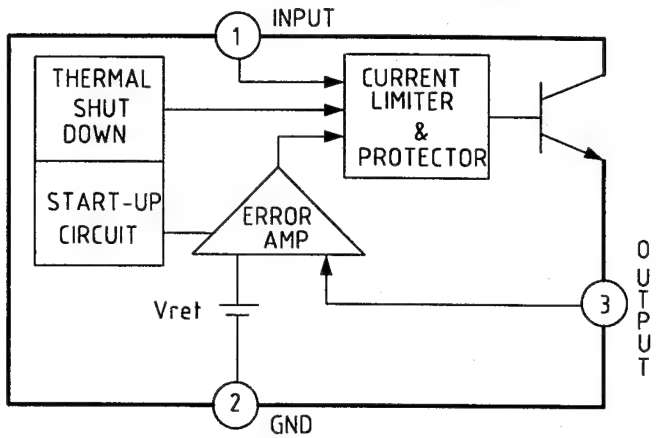
TC9176P : IC507 (Electronic Volume)



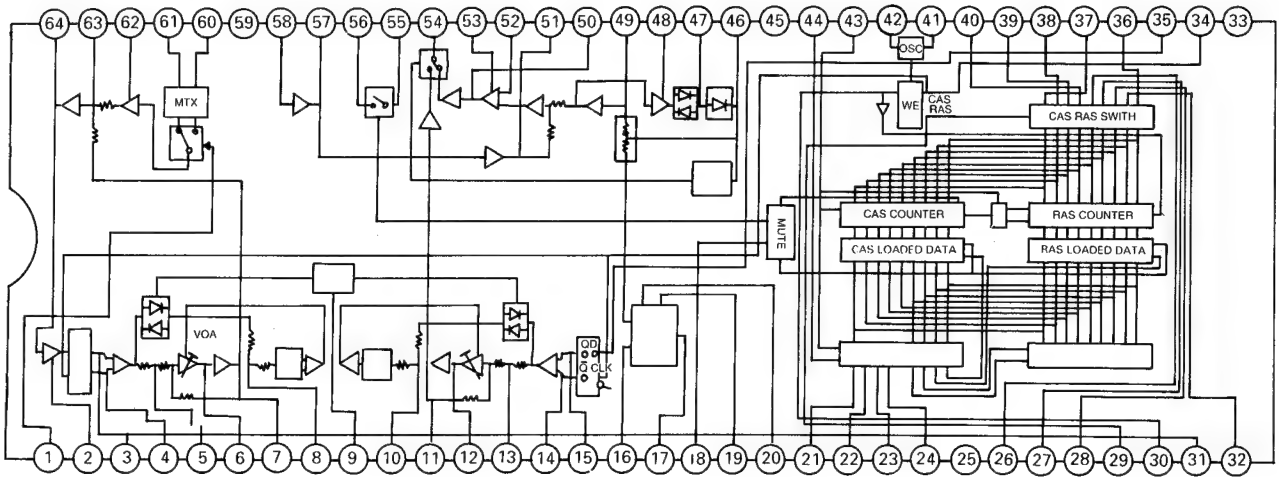
KA7915 : IC243 (Regulator)



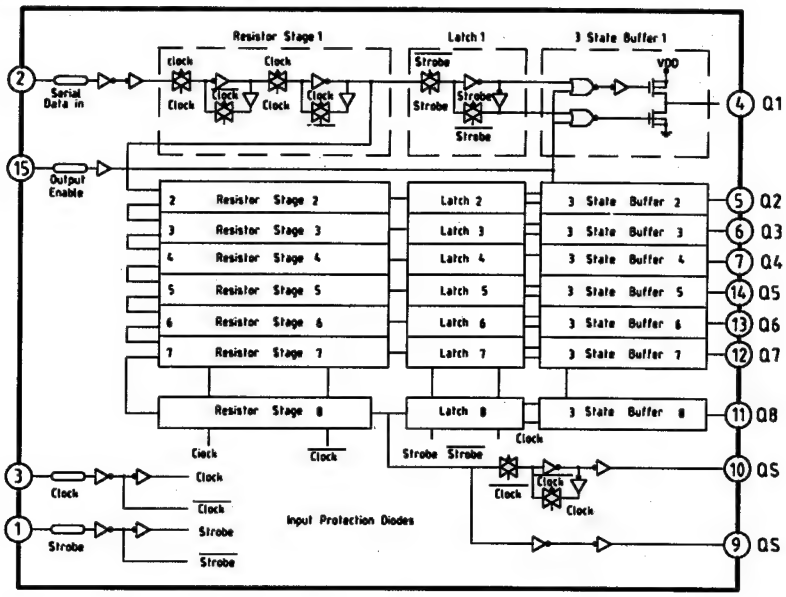
KA7806 : IC242, IC701, IC241 (Regulator)



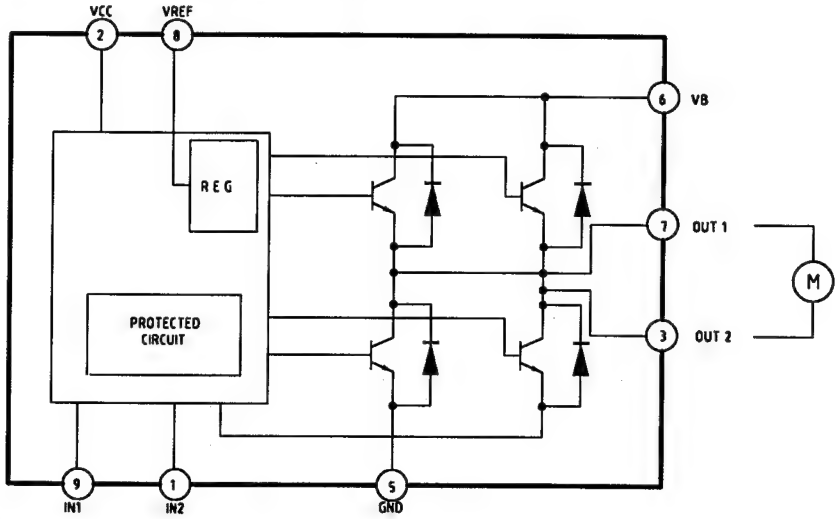
LV-1000NA : IC503 (Time Delay Device)



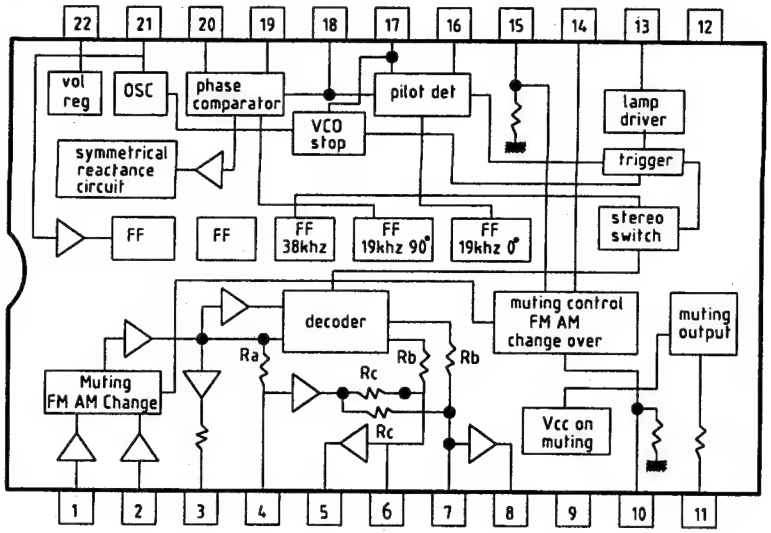
MC14094BCP : IC105, IC202, IC505 (Shift Registor)



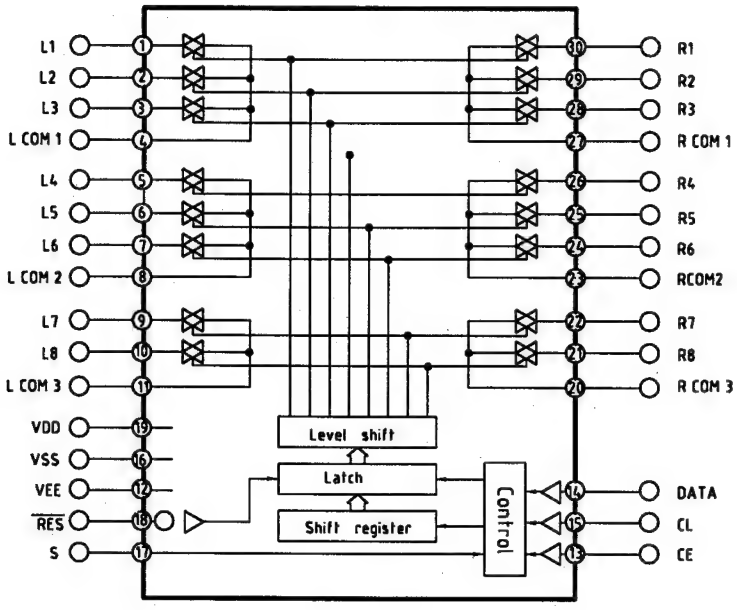
TA7291S : IC301 (Bridge Driver)



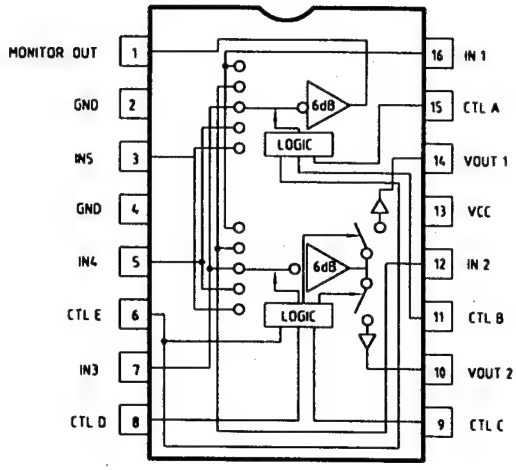
LA3410 : IC903 (MPX)



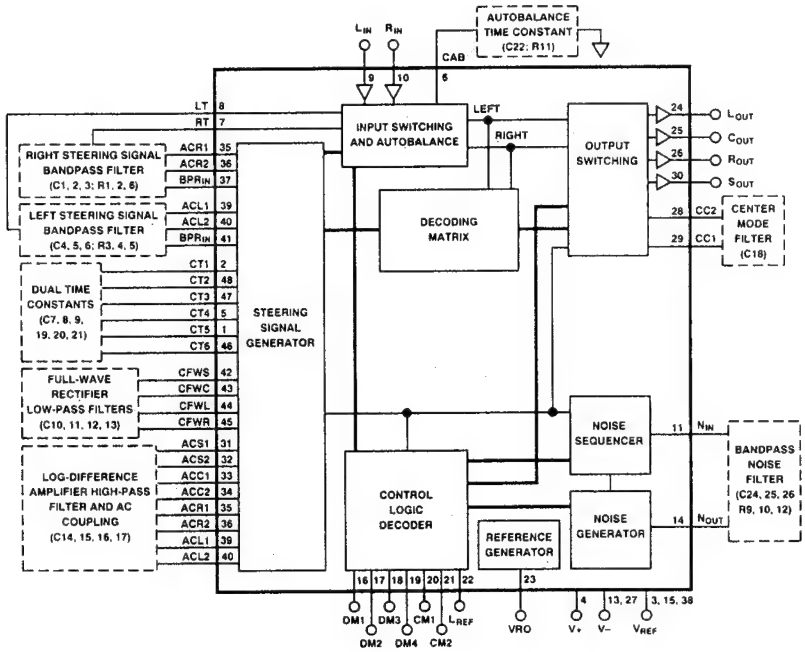
LC7822 : IC109, IC506 (Audio Signal Switching)



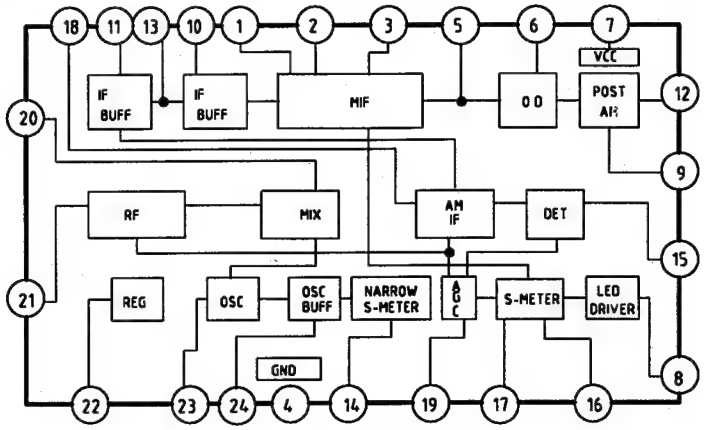
BA7625 : IC104 (Video Switching)



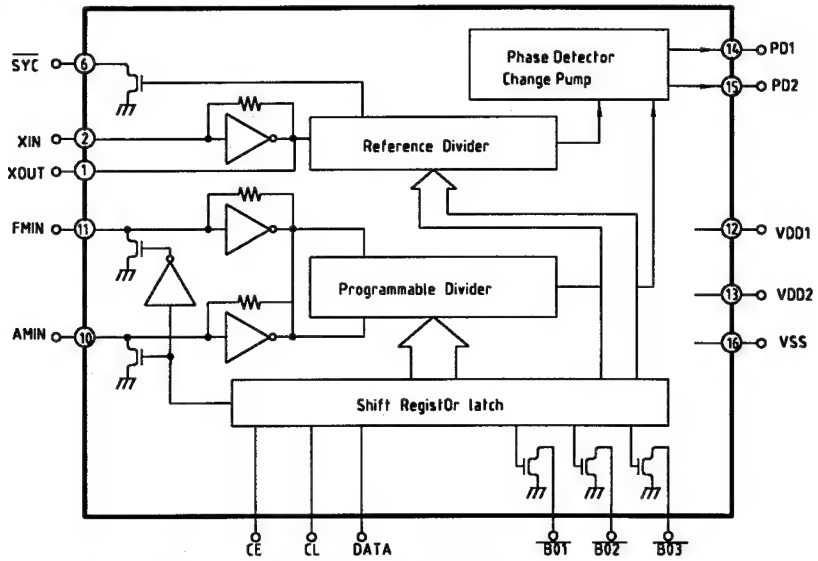
SSM-2126A : IC201 (Dolby Decoder)



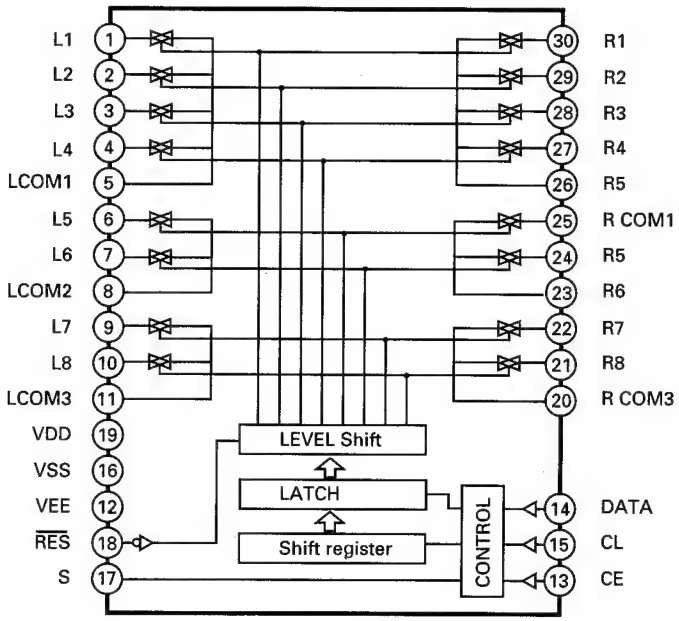
LA1266 : IC902 (AM/FM IF)



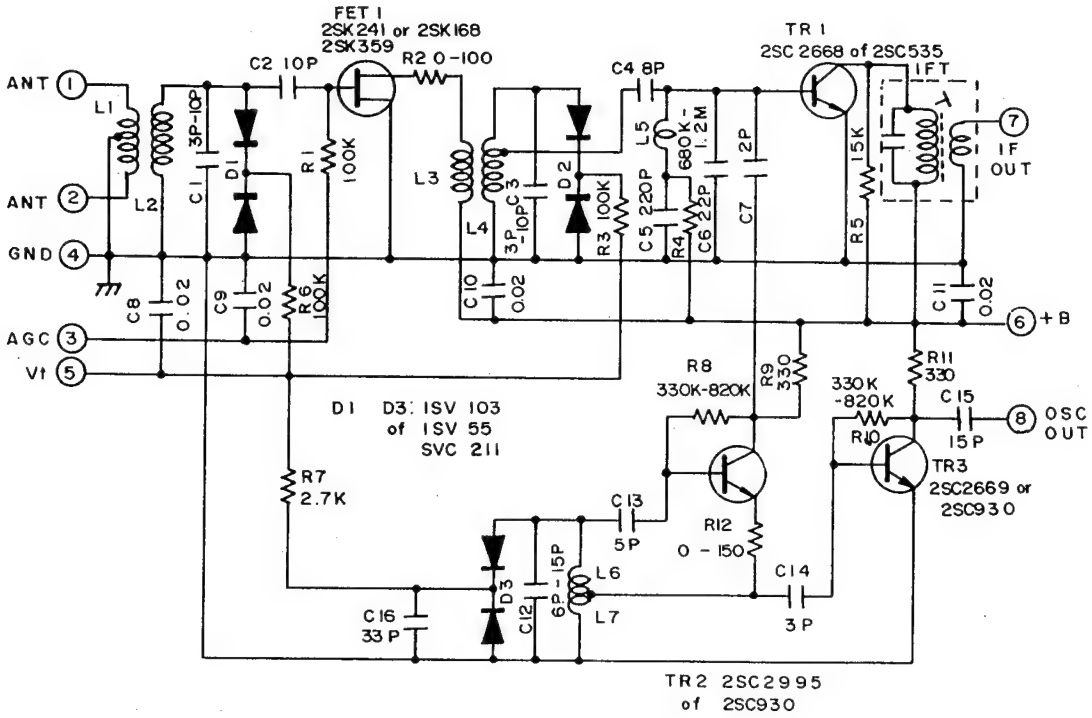
LM7001 : IC901 (PLL)



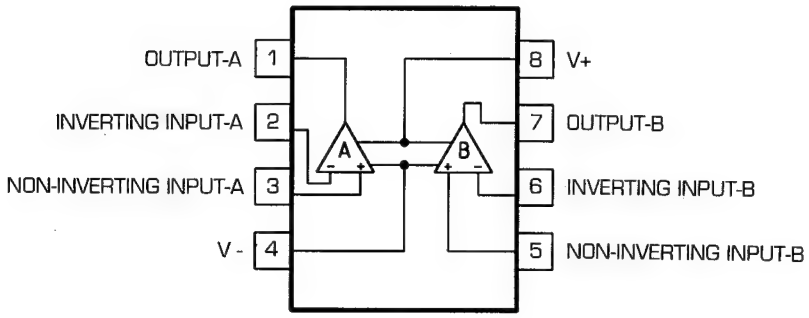
LC7821 : IC101, IC102 (Audio Signal Switching)



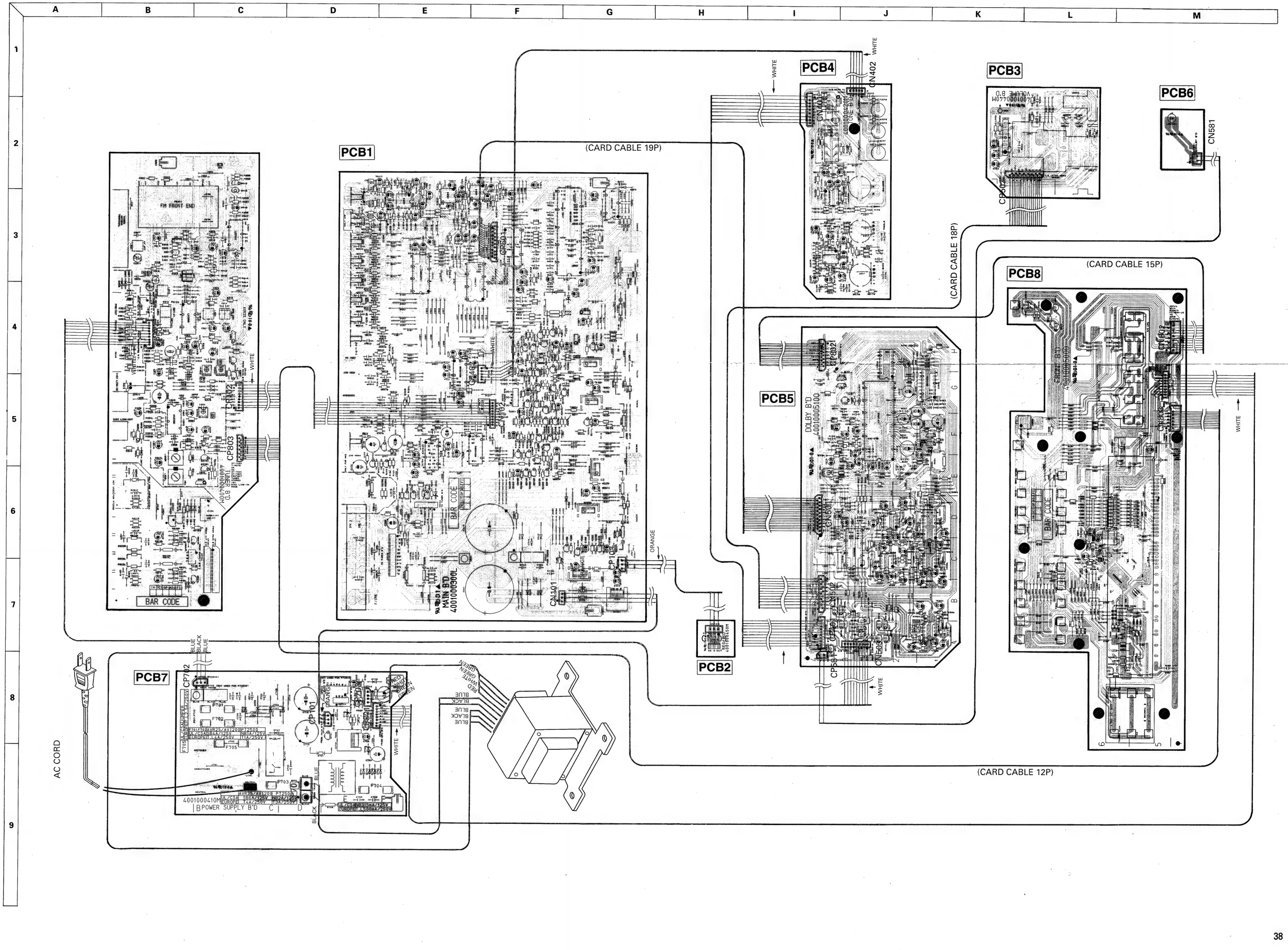
FE901 FE407-A15



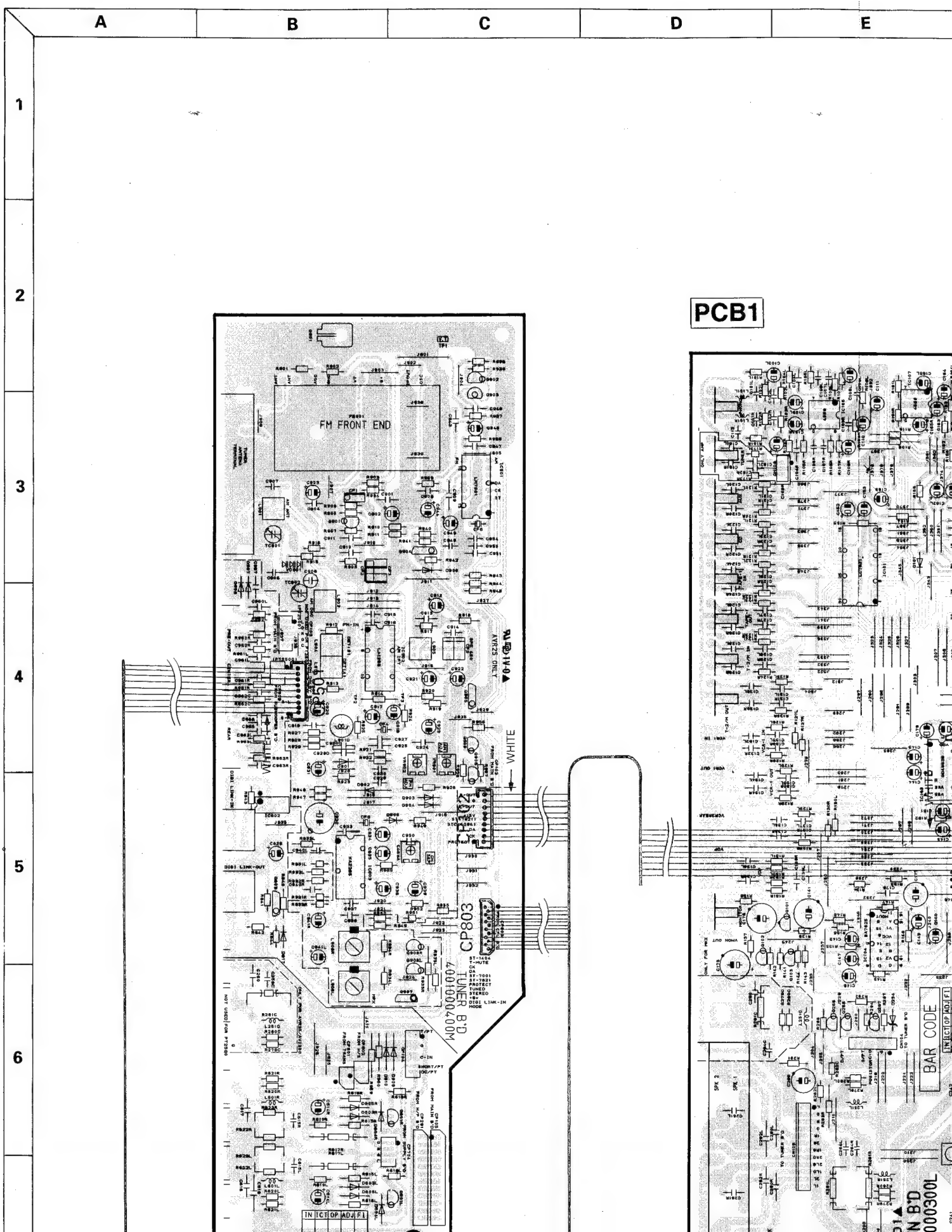
NE5532N : IC107, IC108, IC401, IC402, IC501, IC502, IC508, IC509 (OP-Amp)



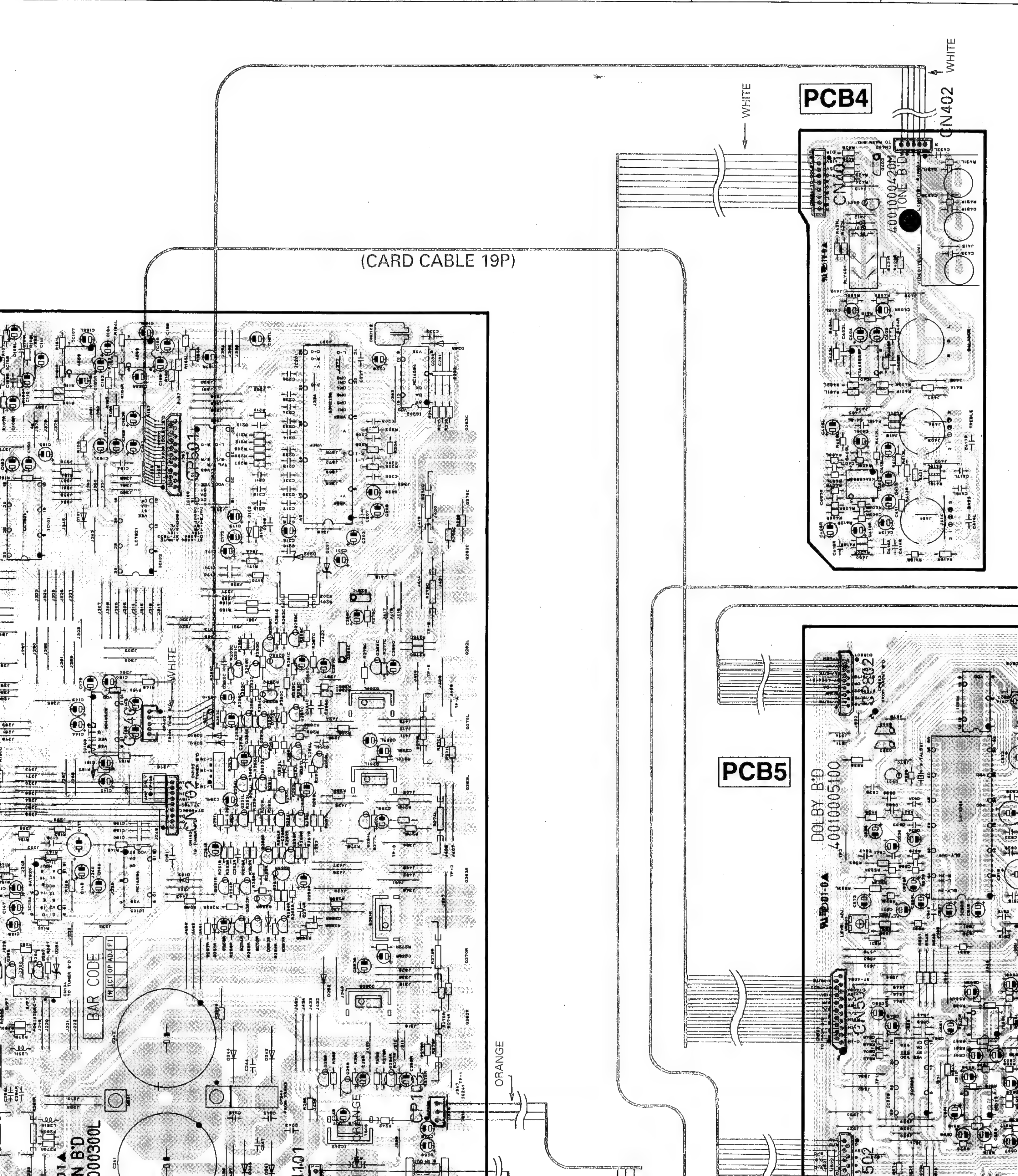
WIRING DIAGRAM



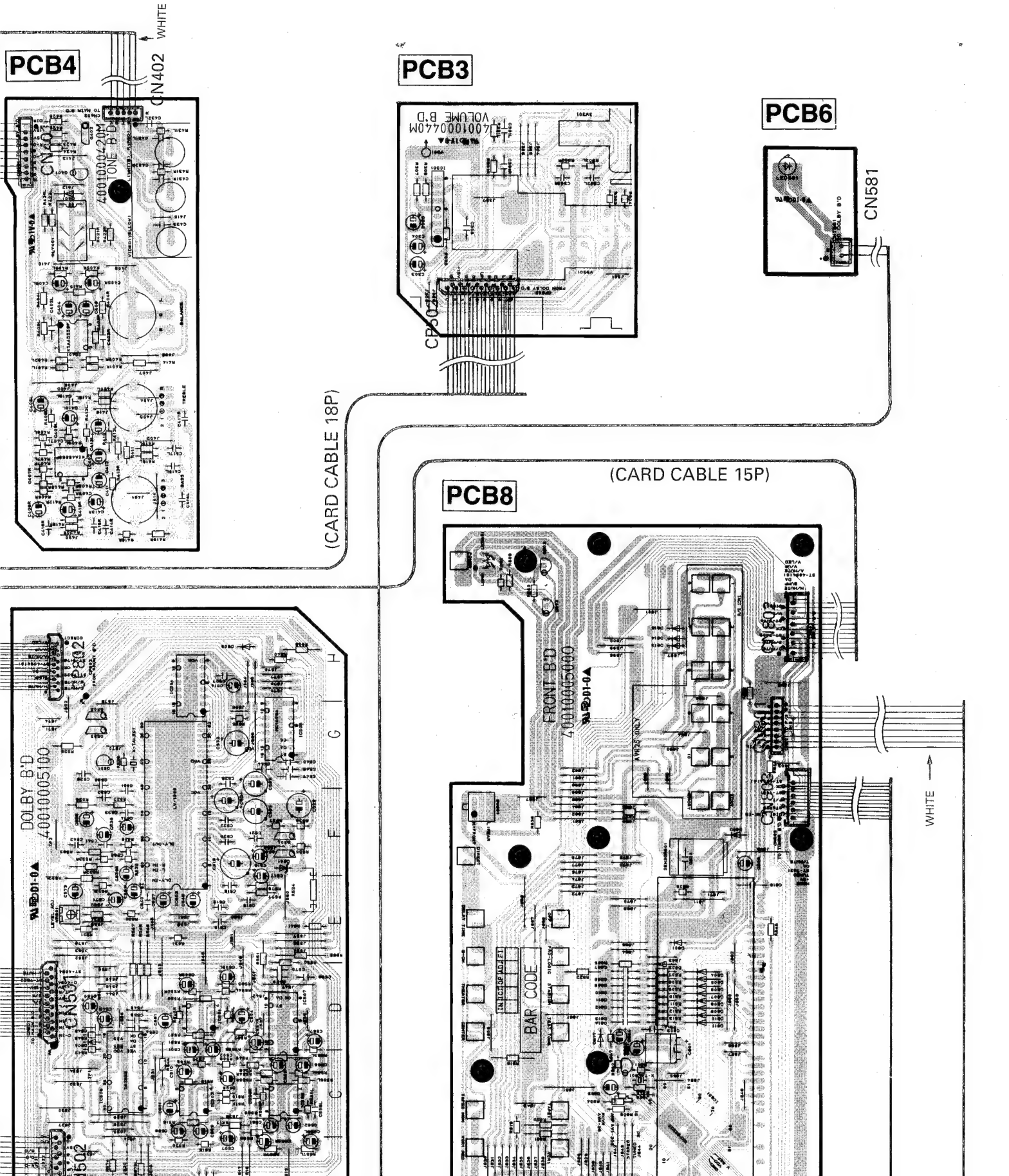
WIRING DIAGRAM

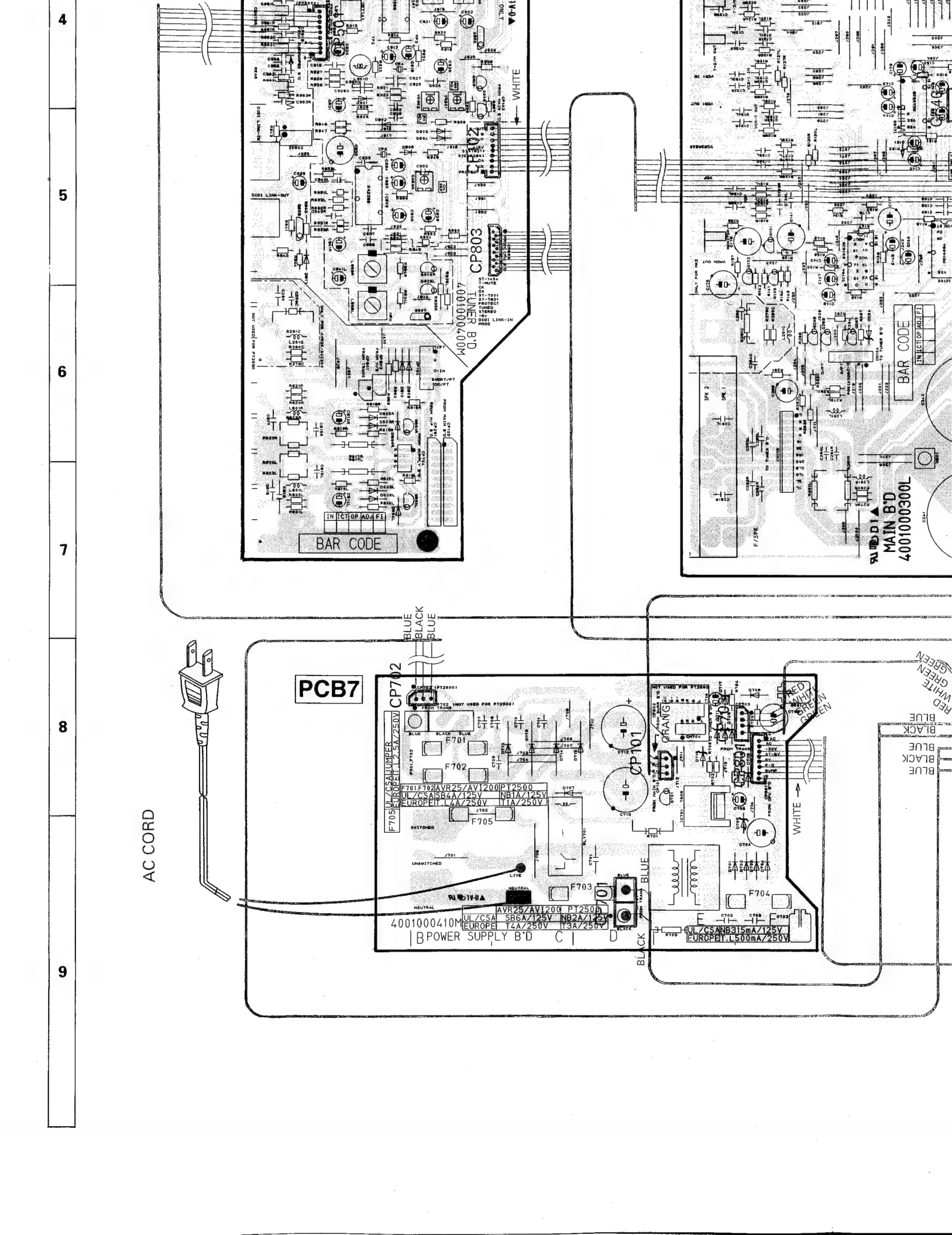


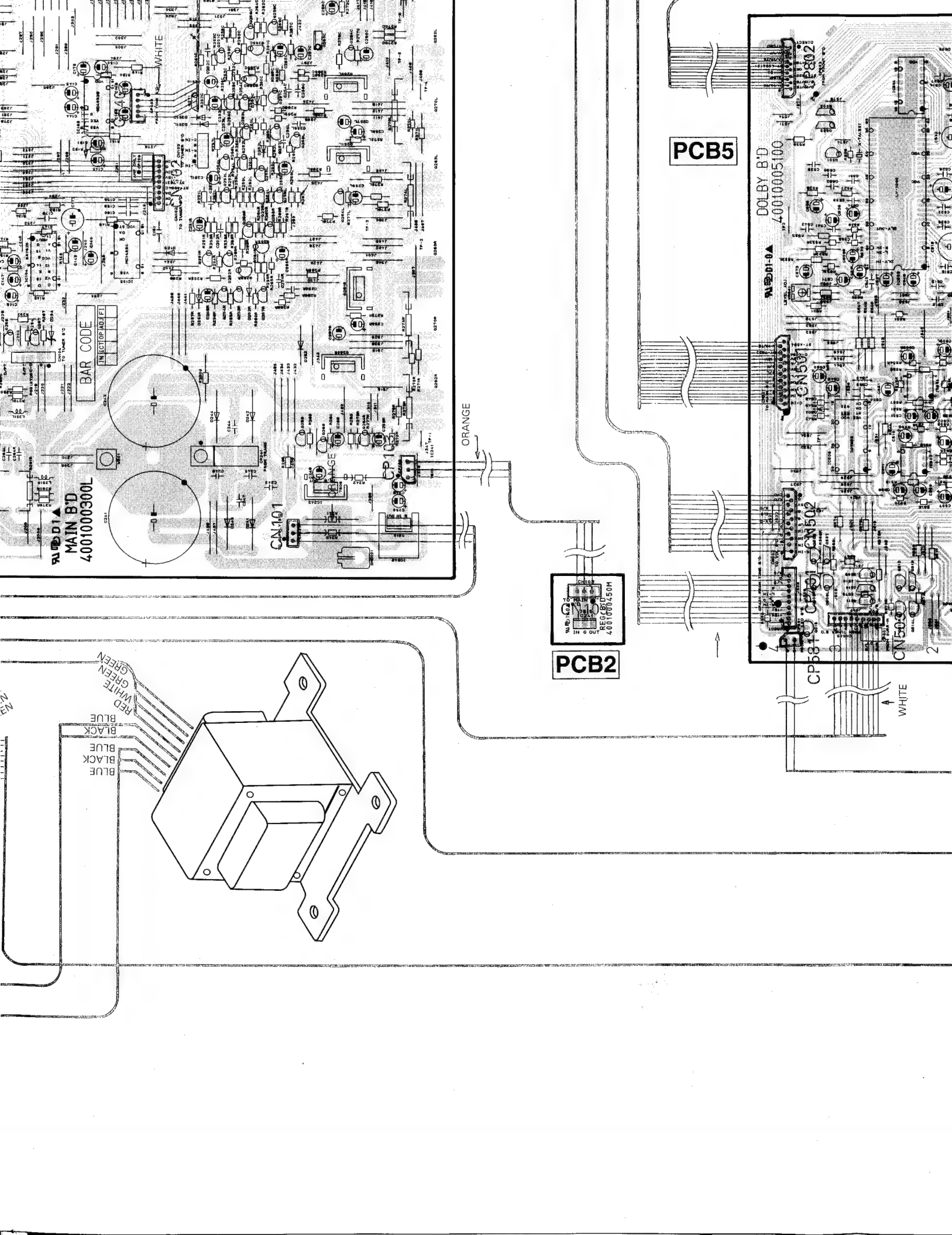
E	F	G	H	I	J

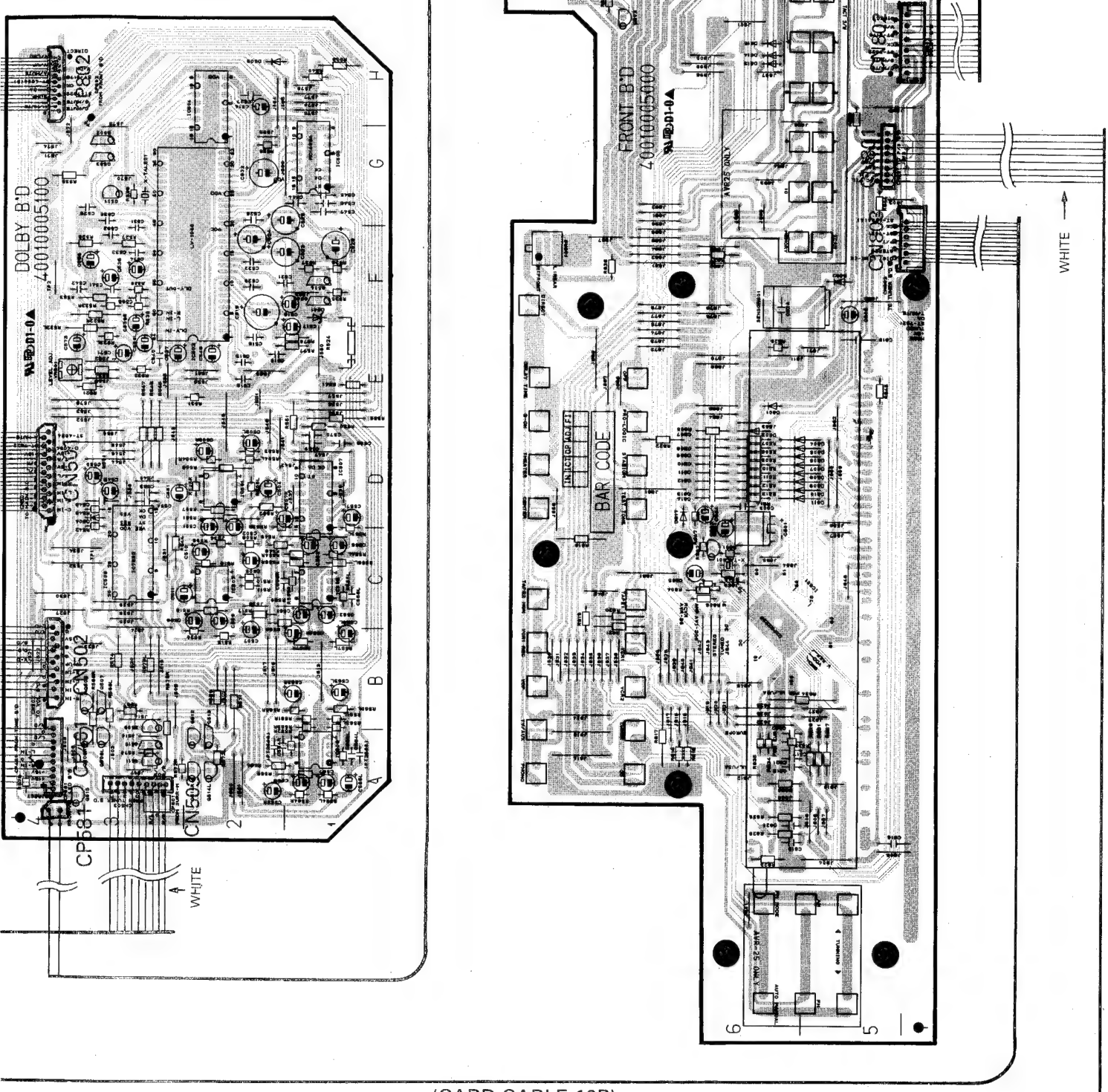

PCB4
CN402
WHITE
WHITE
40010000420M
TONE B'D
(CARD CABLE 19P)
PCB5
DOLBY B'D
40010005100
BAR CODE
ORANGE
ORANGE
WHITE

J K L M


PCB4
CN402
WHITE
CN401
TONE B'D
PCB3
VOLUME B'D
CP501
PCB6
CN581
(CARD CABLE 18P)
(CARD CABLE 15P)
PCB8
FRONT B'D
CN802
CN803
WHITE
BAR CODE
DOLBY B'D
CN502
CN503

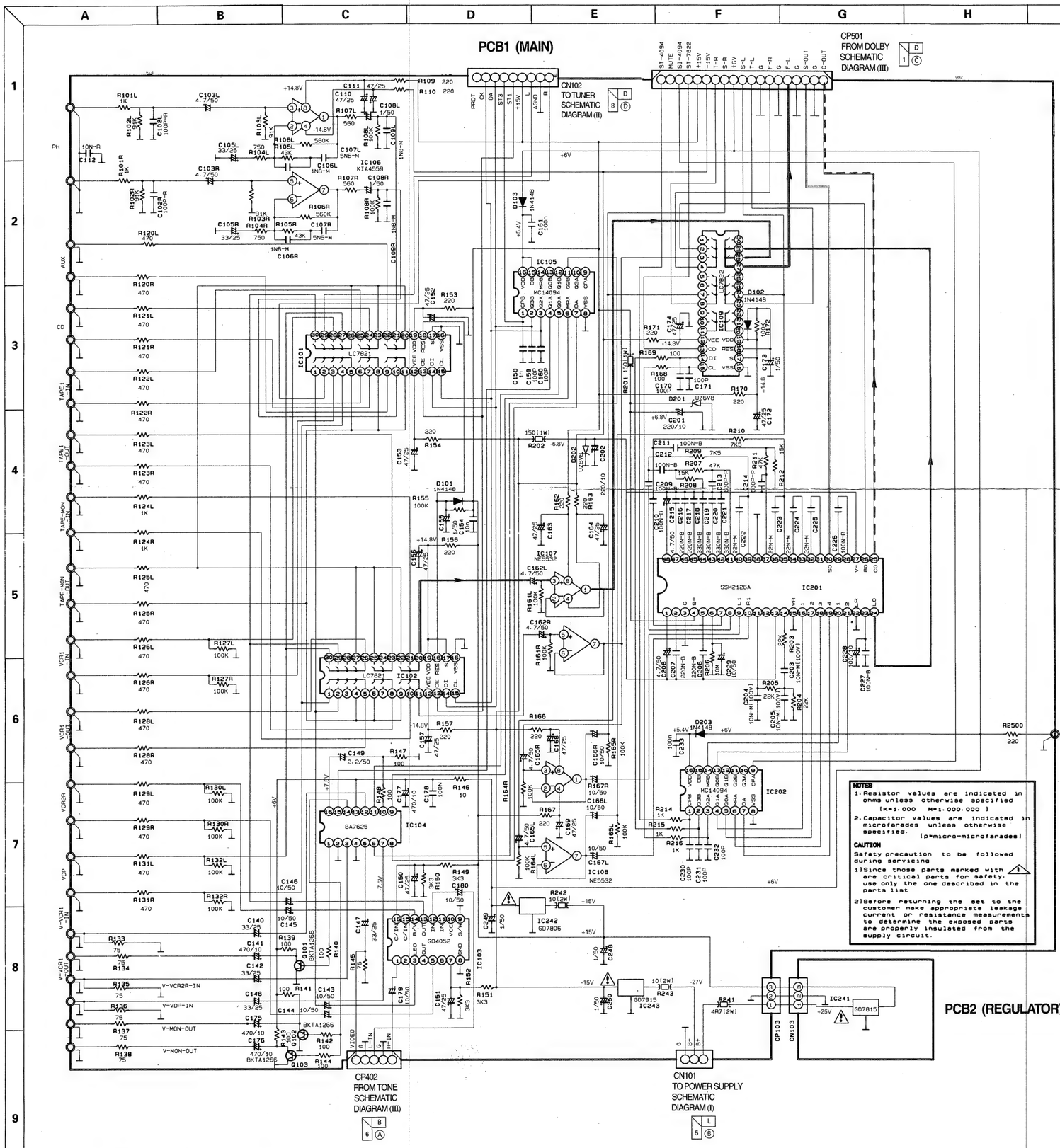

4
5
6
7
8
9
CP502
CP803
TUNER B'D
4001000400M
BAR CODE
MAIN B'D
4001000300L
BLUE
BLACK
BLUE
PCB7
CP702
CP101
F701
F702
F705
F703
F704
AVR25/AVI200/PT2500
UL/CSA 5B4A/125V
EUROPE T.4A/250V
NB1A/125V
T1A/250V
UL/CSA SB6A/125V
EUROPE T4A/250V
NB2A/125V
T3A/250V
UL/CSA NB315mA/125V
EUROPE T.500mA/250V
4001000410M
POWER SUPPLY B'D
AC CORD
WHITE
BLACK
RED
GREEN
ORANG

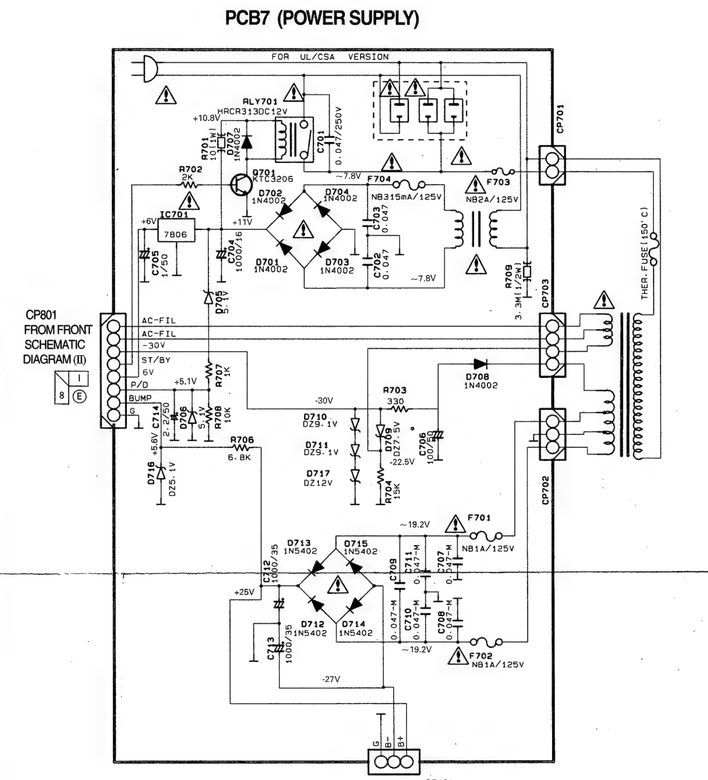

PCB5
PCB2
MAIN B'D
4001000300L
DOLBY B'D
40010005100
REG B'D
4001000450M
BAR CODE
WHITE
ORANGE
BLUE
BLACK
BLUE
RED
WHITE
GREEN
GREEN
CN502
CN503
CP501
CP502
CA101

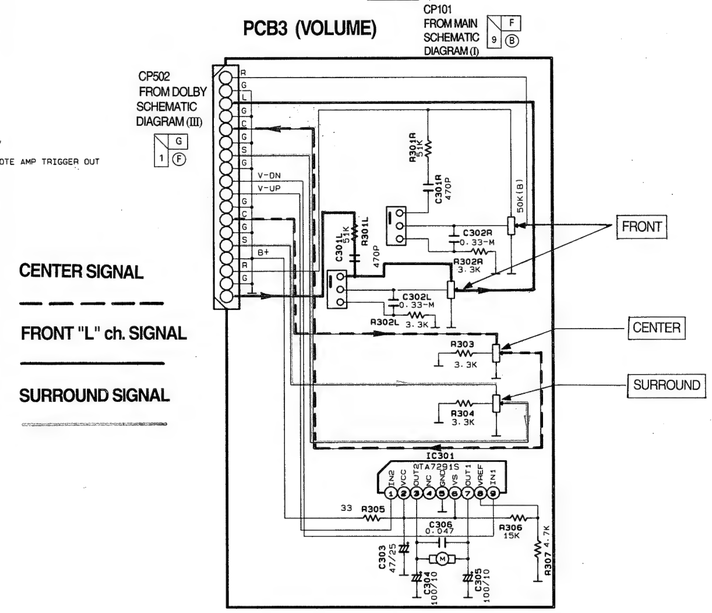


(CARD CABLE 12P)

SCHEMATIC DIAGRAM I







NOTES

1. Resistor values are indicated in ohms unless otherwise specified (K=1,000 M=1,000,000)
2. Capacitor values are indicated in microfarades unless otherwise specified. (P=micro-microfarades)

CAUTION

Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety-use only the one described in the parts list
2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

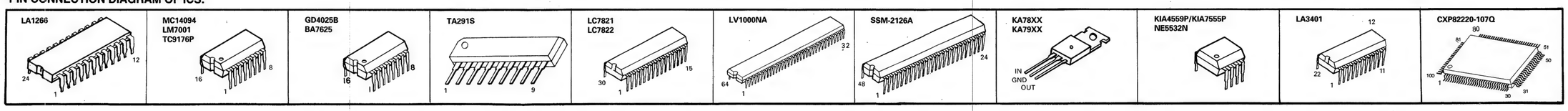
CENTER SIGNAL

FRONT "L" ch. SIGNAL

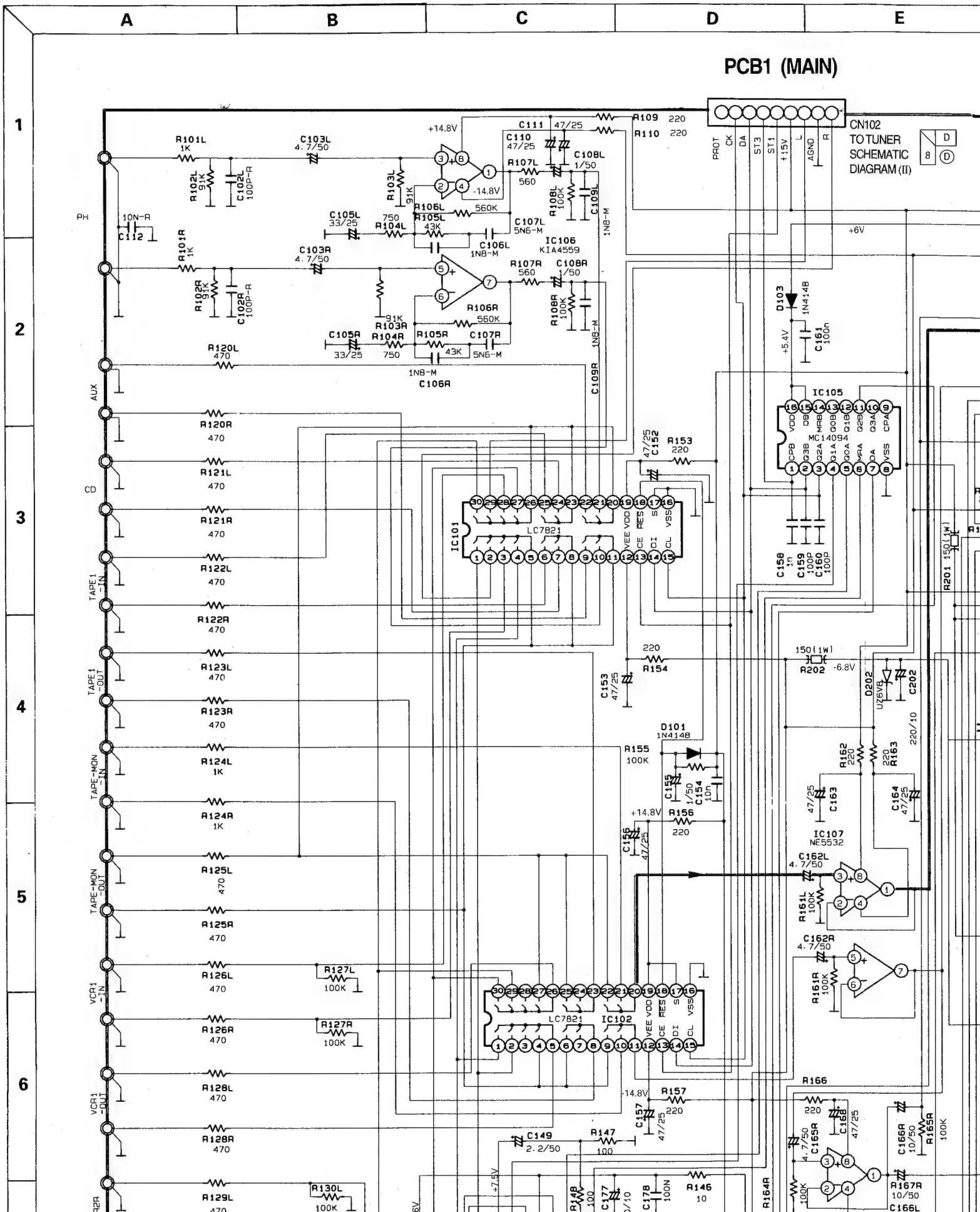
SURROUND SIGNAL

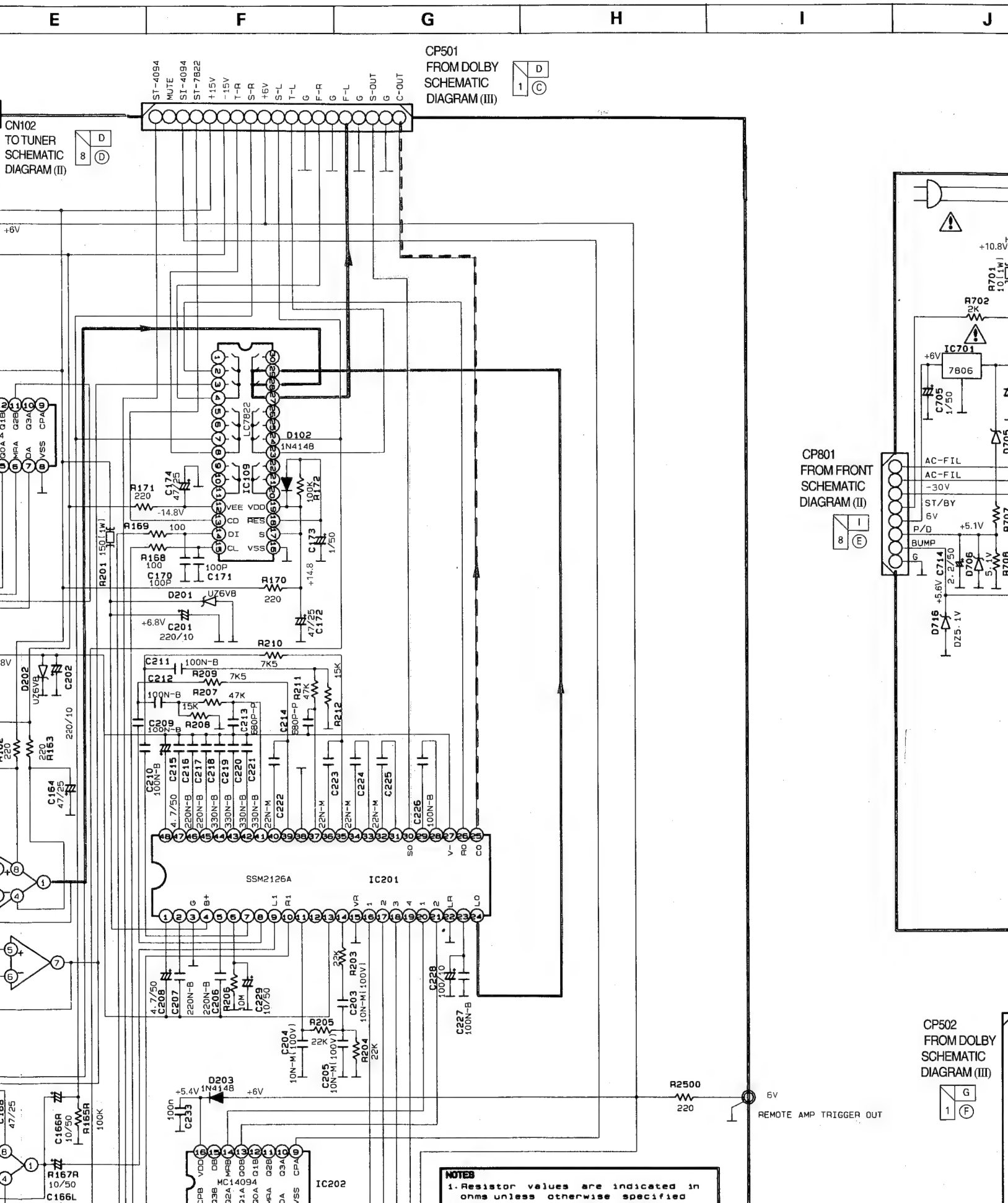
PCB2 (REGULATOR)

PIN CONNECTION DIAGRAM OF ICS.



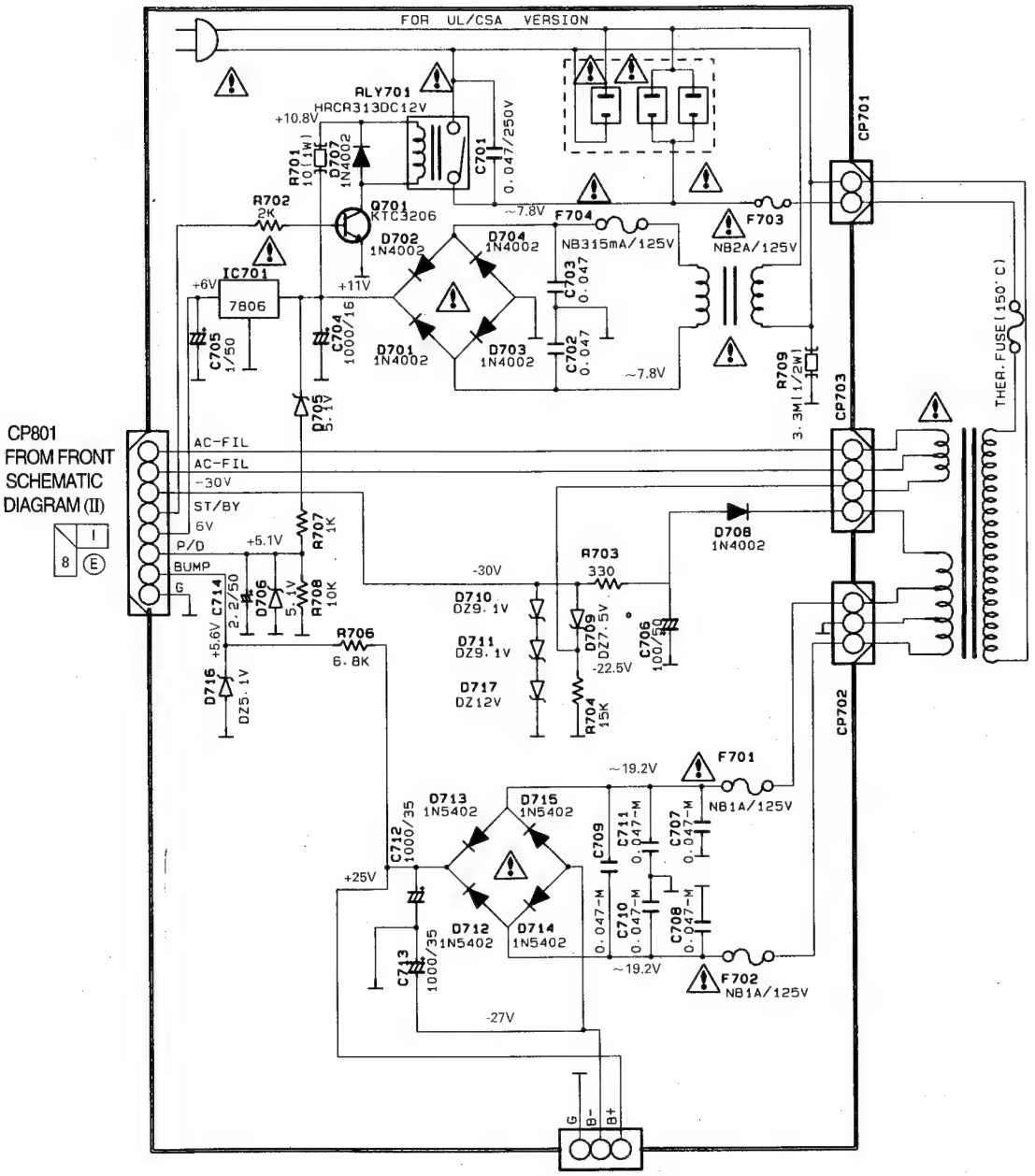
SCHEMATIC DIAGRAM I




E
F
G
H
I
J
CP501
FROM DOLBY
SCHEMATIC
DIAGRAM (III)
1 D C
ST-4094
MUTE
ST-4094
ST-7822
+15V
-15V
T-R
S-R
+6V
S-L
T-L
G
F-R
G
F-L
G
S-OUT
G
C-OUT
CN102
TO TUNER
SCHEMATIC
DIAGRAM (II)
8 D D
+6V
LC7822
IC109
D102
1N4148
R171
220
-14.8V
C174
47/25
R172
100K
R169
100
R168
100
C170
100P
C171
100P
R170
220
D201
UZ6V8
+6.8V
C201
220/10
C173
1/50
+14.8
C172
47/25
R201
150(1W)
R210
7K5
C211
100N-B
R209
7K5
C212
100N-B
R207
47K
15K
R208
C209
100N-B
C213
680P-P
C214
680P-P
R211
47K
R212
15K
C210
100N-B
C215
4.7/50
C216
220N-B
C217
220N-B
C218
330N-B
C219
330N-B
C220
330N-B
C221
22N-M
C222
22N-M
C223
22N-M
C224
22N-M
C225
C226
100N-B
SSM2126A
IC201
SO
V-
RO
CO
G
B+
L1
R1
VR
LR
LO
C208
4.7/50
C207
220N-B
C206
220N-B
R206
10M
C229
10/50
R205
22K
C203
10N-M(100V)
R203
22K
C204
10N-M(100V)
C205
10N-M(100V)
R204
22K
C228
100/10
C227
100N-B
D203
1N4148
+5.4V
+6V
C233
100n
R2500
220
6V
REMOTE AMP TRIGGER OUT
C166R
10/50
R165R
100K
R167R
10/50
C166L
IC202
MC14094
VDD
DB
MRB
Q3B
Q2B
Q1B
Q0B
Q3A
Q2A
Q1A
Q0A
CPB
VSS
CP801
FROM FRONT
SCHEMATIC
DIAGRAM (II)
8 I E
AC-FIL
AC-FIL
-30V
ST/BY
6V
P/D
+5.1V
BUMP
G
+10.8V
R701
10(1W)
R702
2K
IC701
7806
+6V
C705
1/50
C714
2.2/50
+5.6V
D706
D716
DZ5.1V
CP502
FROM DOLBY
SCHEMATIC
DIAGRAM (III)
1 G F
NOTES
1. Resistor values are indicated in ohms unless otherwise specified

I	J	K	L	M

PCB7 (POWER SUPPLY)

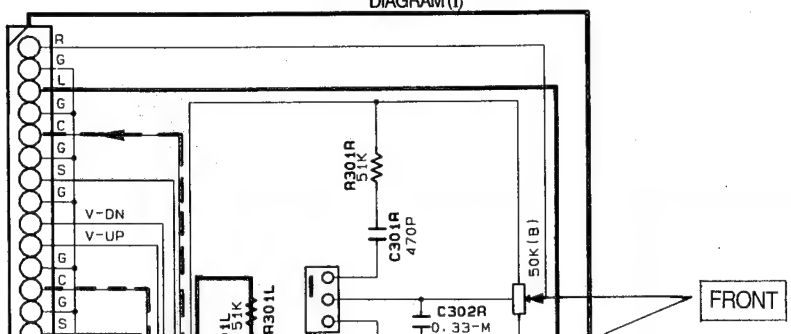


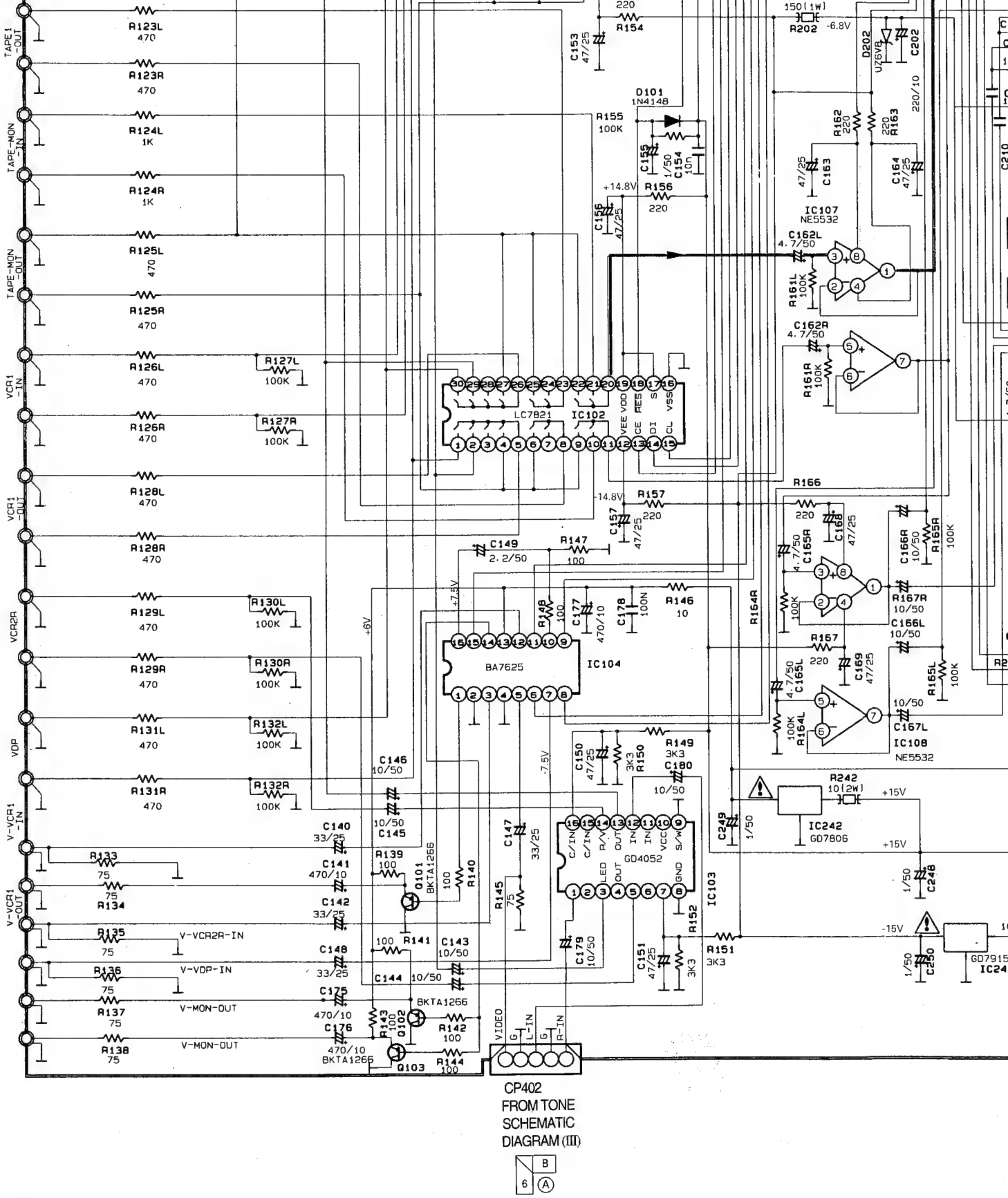
PCB3 (VOLUME)

CP101
FROM MAIN
SCHEMATIC
DIAGRAM (I)
9 F B

CP502
FROM DOLBY
SCHEMATIC
DIAGRAM (III)
1 G F

TE AMP TRIGGER OUT



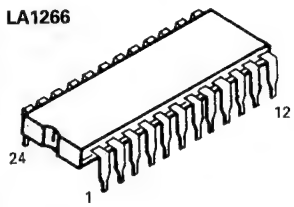


CP402
FROM TONE
SCHEMATIC
DIAGRAM (III)

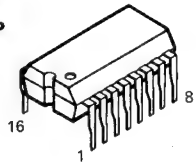
B
6 A

PIN CONNECTION DIAGRAM OF ICS.

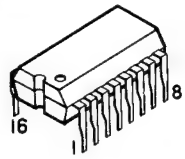
LA1266



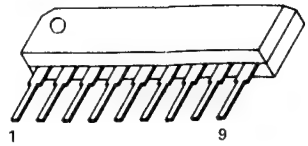
MC14094
LM7001
TC9176P



GD4025B
BA7625



TA291S



LC
LC

SSM2126A IC201

MC14094 IC202

NE5532 IC108

GD7915 IC243

GD7815 IC241

D203 1N4148

R2500 220

6V

REMOTE AMP TRIGGER OUT

CP502
FROM DOLBY
SCHEMATIC
DIAGRAM (III)

G
1 F

NOTES

1. Resistor values are indicated in ohms unless otherwise specified
   [K=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarades unless otherwise specified.
   [p=micro-microfarades]

CAUTION

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2] Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

CENTER SIGNAL

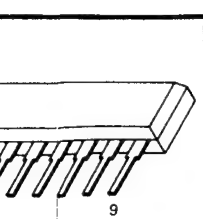
FRONT "L" ch. SIGNAL

SURROUND SIGNAL

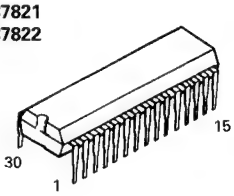
PCB2 (REGULATOR)

CN101
TO POWER SUPPLY
SCHEMATIC
DIAGRAM (I)

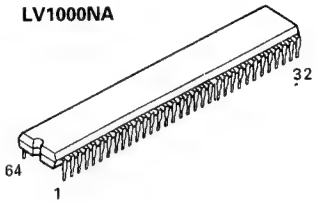
L
5 B



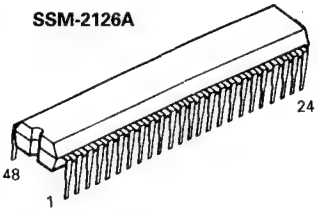
LC7821
LC7822



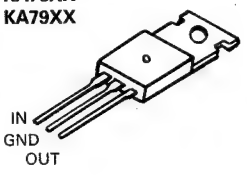
LV1000NA



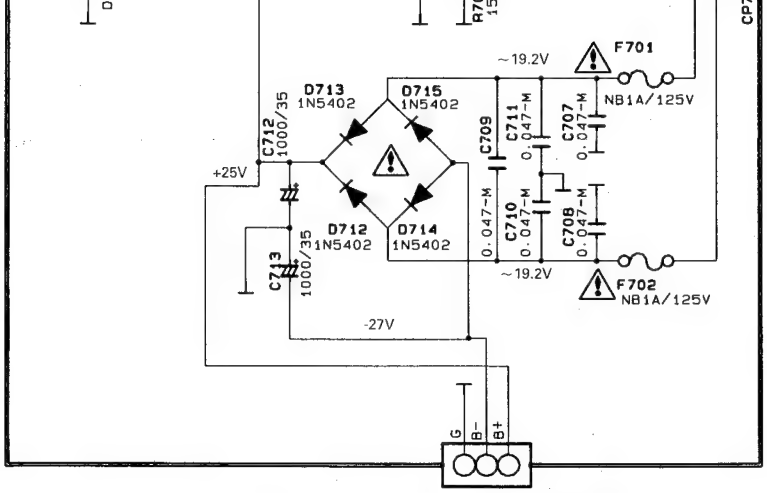
SSM-2126A



KA78XX
KA79XX



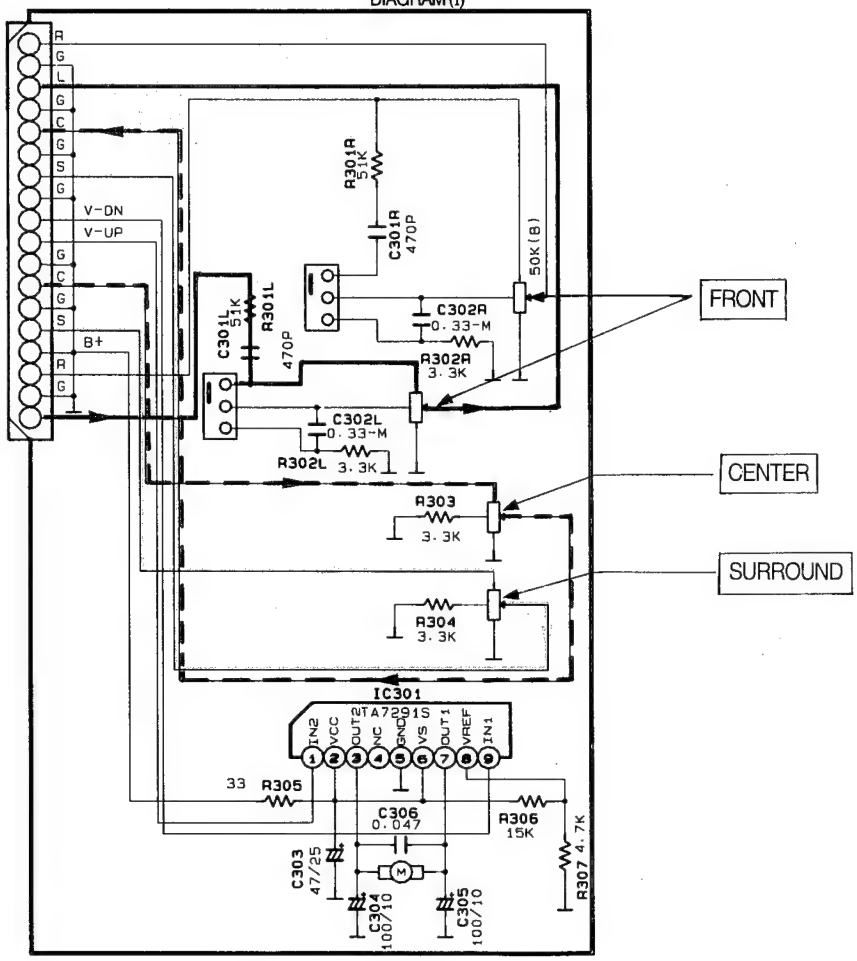
KI
NE



PCB3 (VOLUME)

CP101
FROM MAIN
SCHEMATIC
DIAGRAM (I)
F / 9 / B

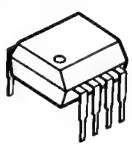
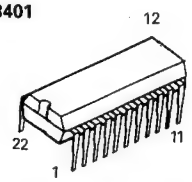
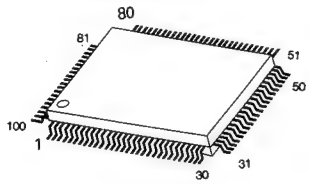
CP502
FROM DOLBY
SCHEMATIC
DIAGRAM (III)
G / 1 / F



SIGNAL

L" ch. SIGNAL

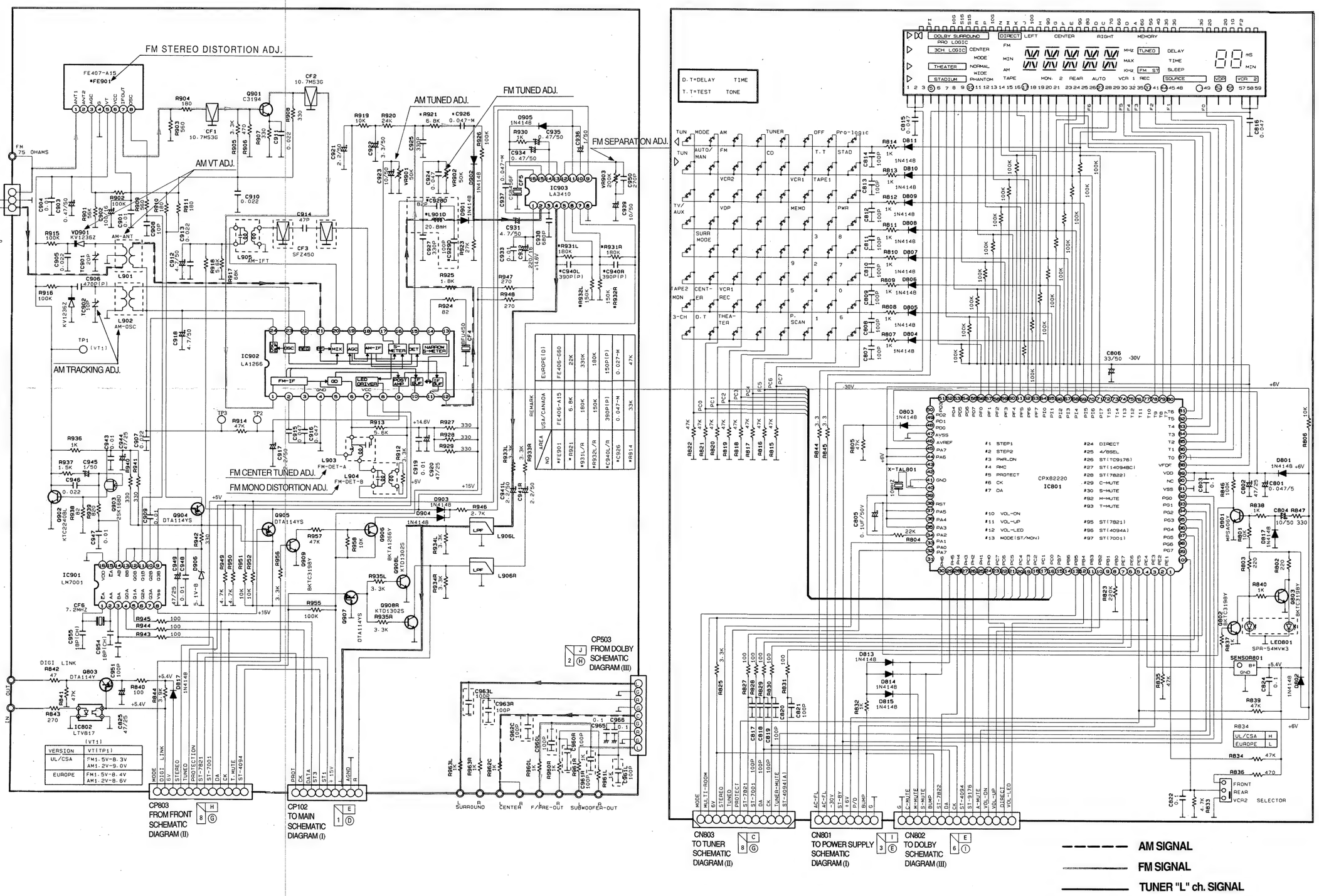
ND SIGNAL

	KIA4559P/KIA7555P NE5532N	LA3401	CXP82220-107Q
			

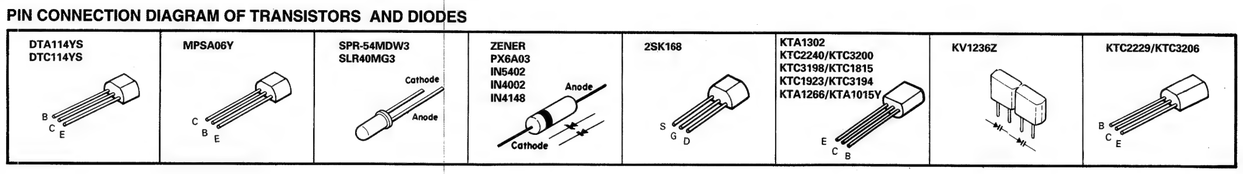
SCHEMATIC DIAGRAM II

PCB9 (TUNER)

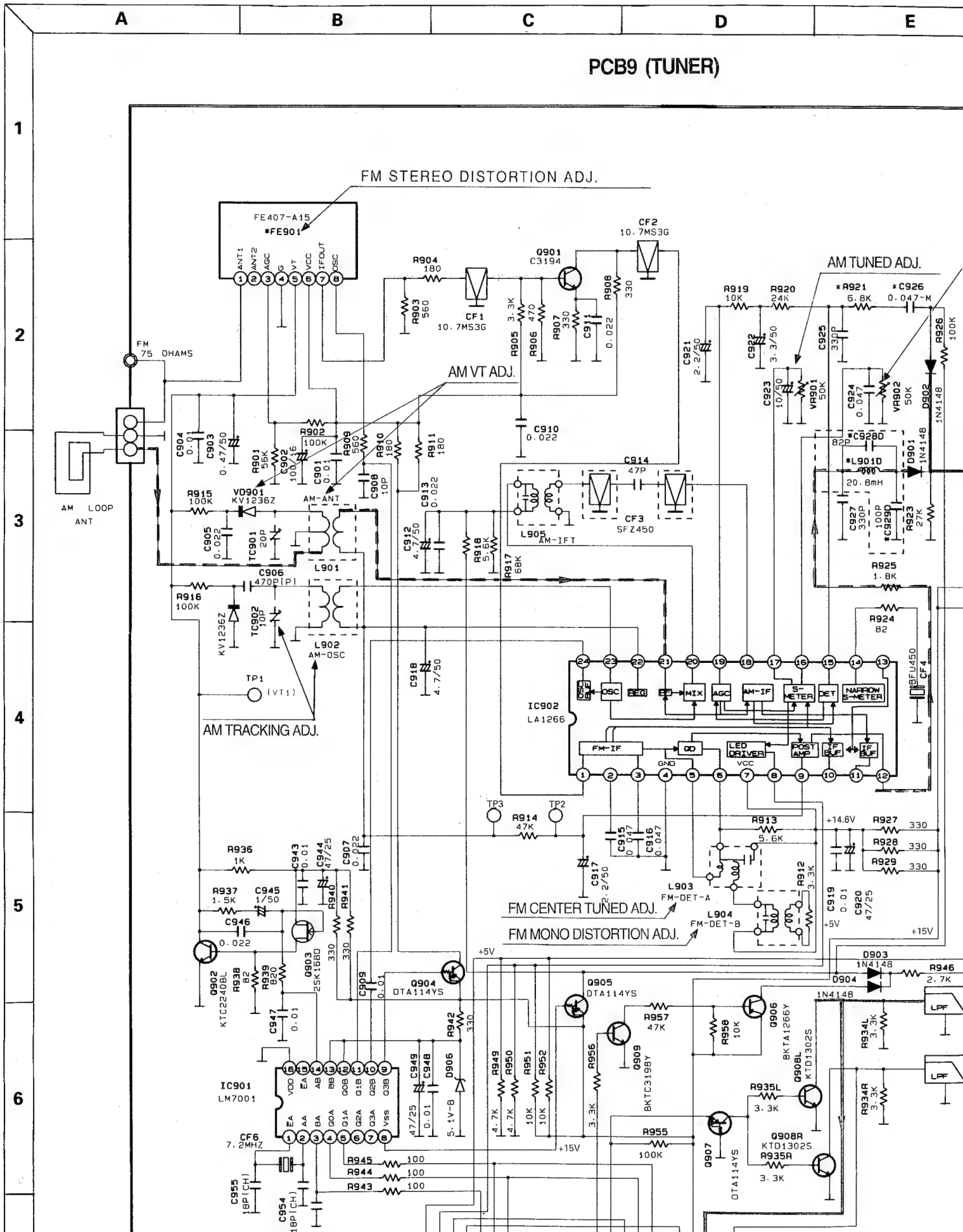
PCB8 (FRONT)



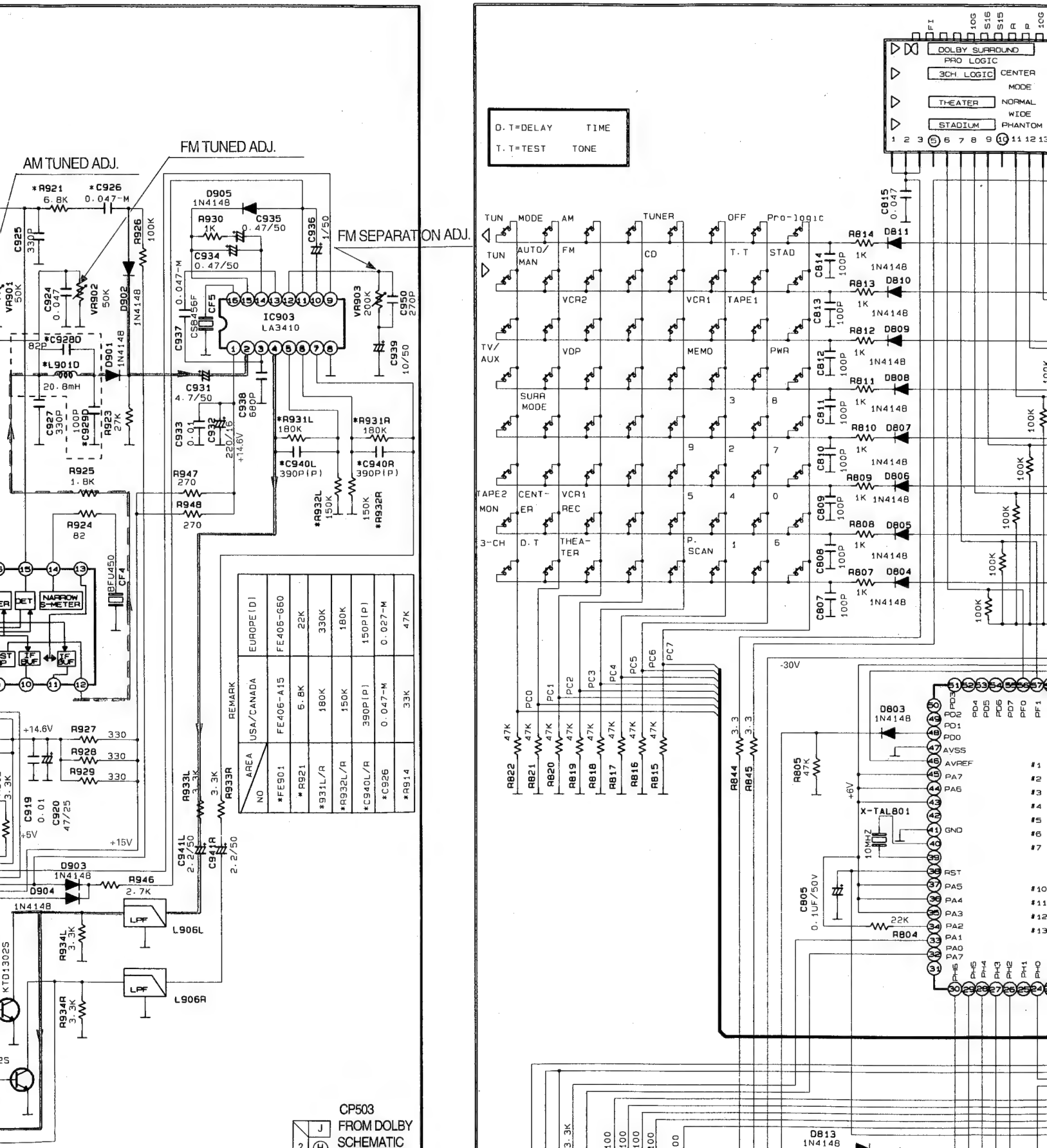
PIN CONNECTION DIAGRAM OF TRANSISTORS AND DIODES



SCHEMATIC DIAGRAM II

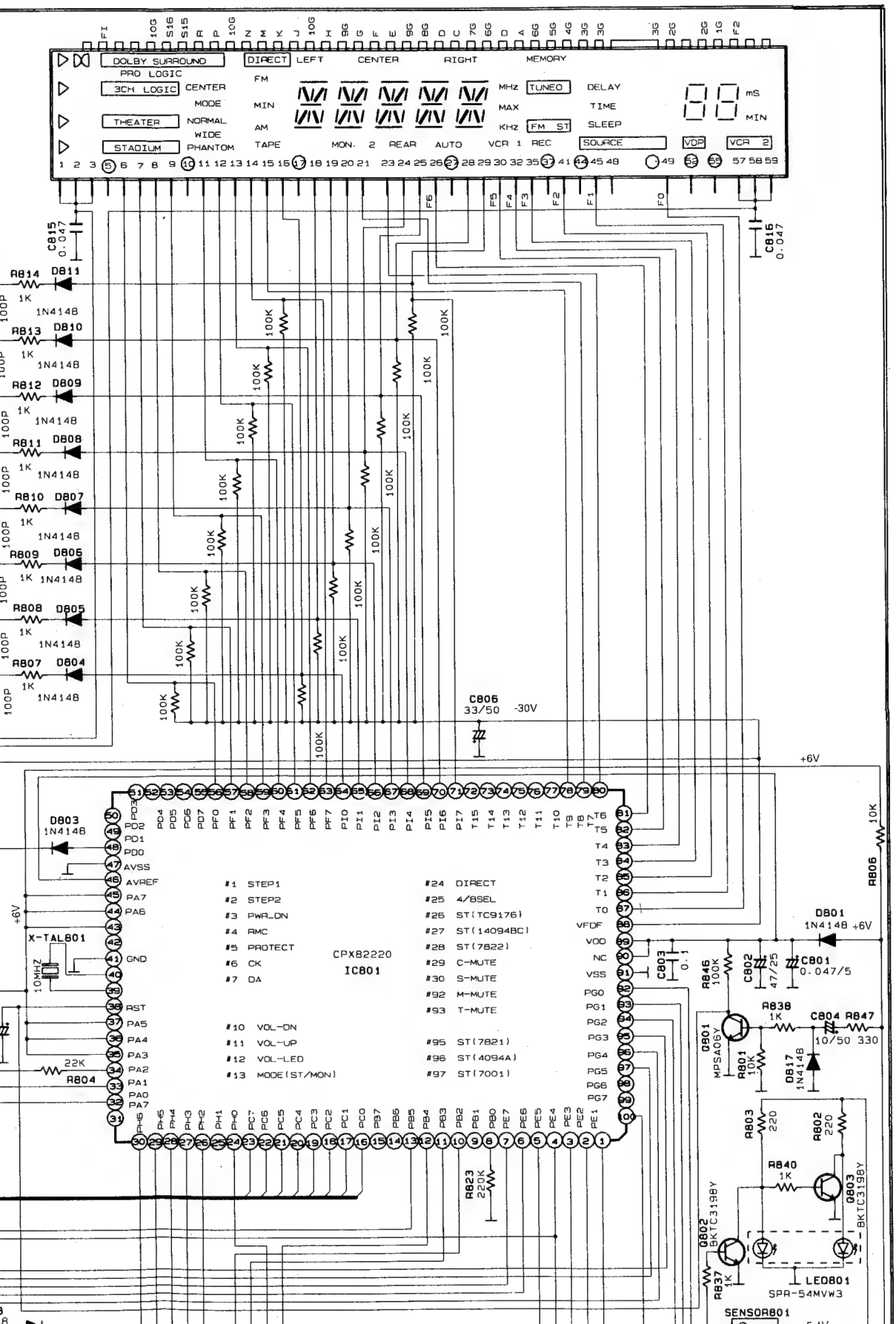


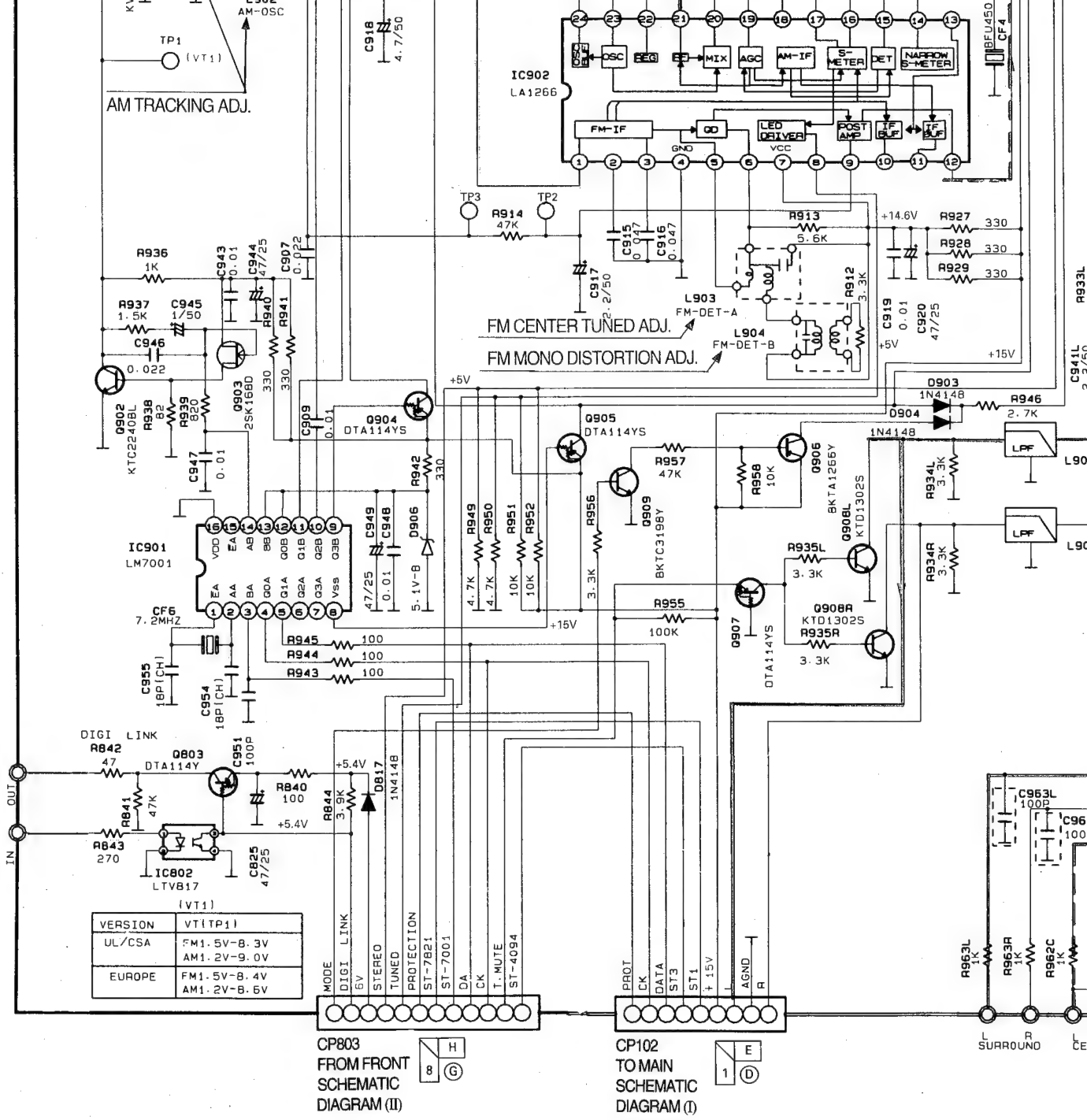
PCB8 (FR


AM TUNED ADJ.
FM TUNED ADJ.
FM SEPARATON ADJ.
IC903
LA3410
D. T=DELAY TIME
T. T=TEST TONE
DOLBY SURROUND
PRO LOGIC
3CH. LOGIC
CENTER
MODE
THEATER
NORMAL
WIDE
STADIUM
PHANTOM
TUN MODE AM TUNER OFF Pro-logic
AUTO/ MAN
FM
CD
T.T
STAD
VCR2
VCR1
TAPE1
TV/ AUX
VDP
MEMO
PWR
SURR MODE
TAPE2 MON
CENT-ER
VCR1 REC
3-CH
D.T
THEA-TER
P. SCAN
-30V
X-TAL801
10MHZ
+6V
+14.6V
+5V
+15V
L906L
L906R
LPF
CP503
FROM DOLBY SCHEMATIC
REMARK
AREA NO
USA/CANADA
EUROPE(D)
*FE901 FE406-A15 FE406-660
*R921 6.8K 22K
*R931L/R 180K 330K
*R932L/R 150K 180K
*C940L/R 390P(P) 150P(P)
*C926 0.047-M 0.027-M
*R914 33K 47K

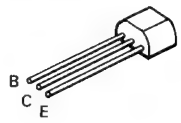
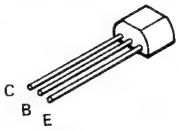
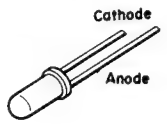
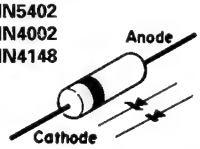
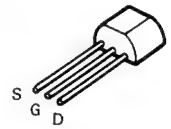
I	J	K	L	M

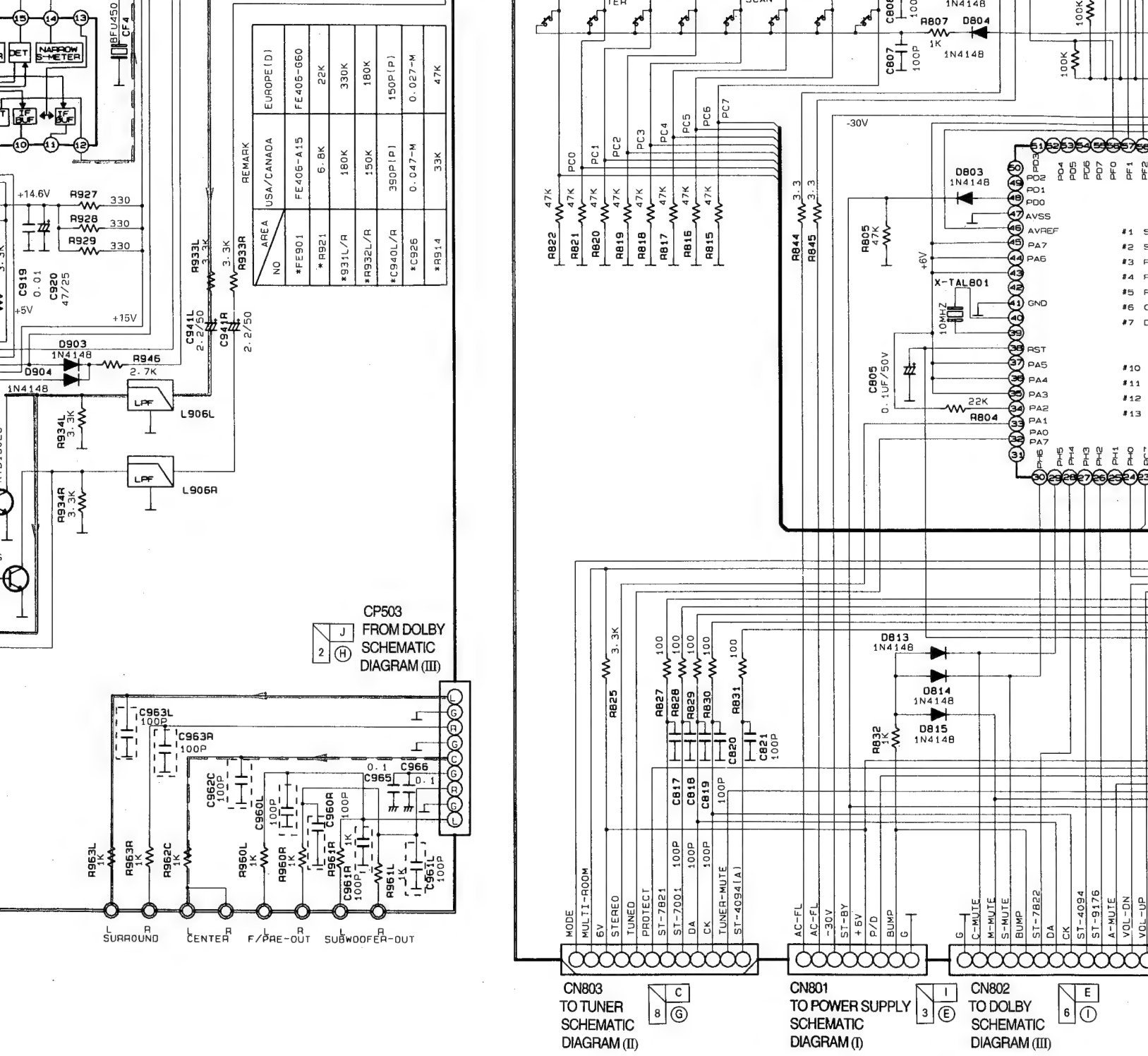
PCB8 (FRONT)

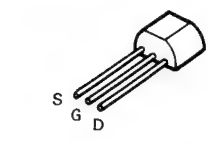
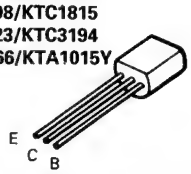
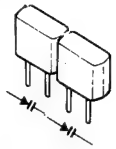
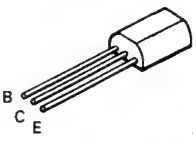


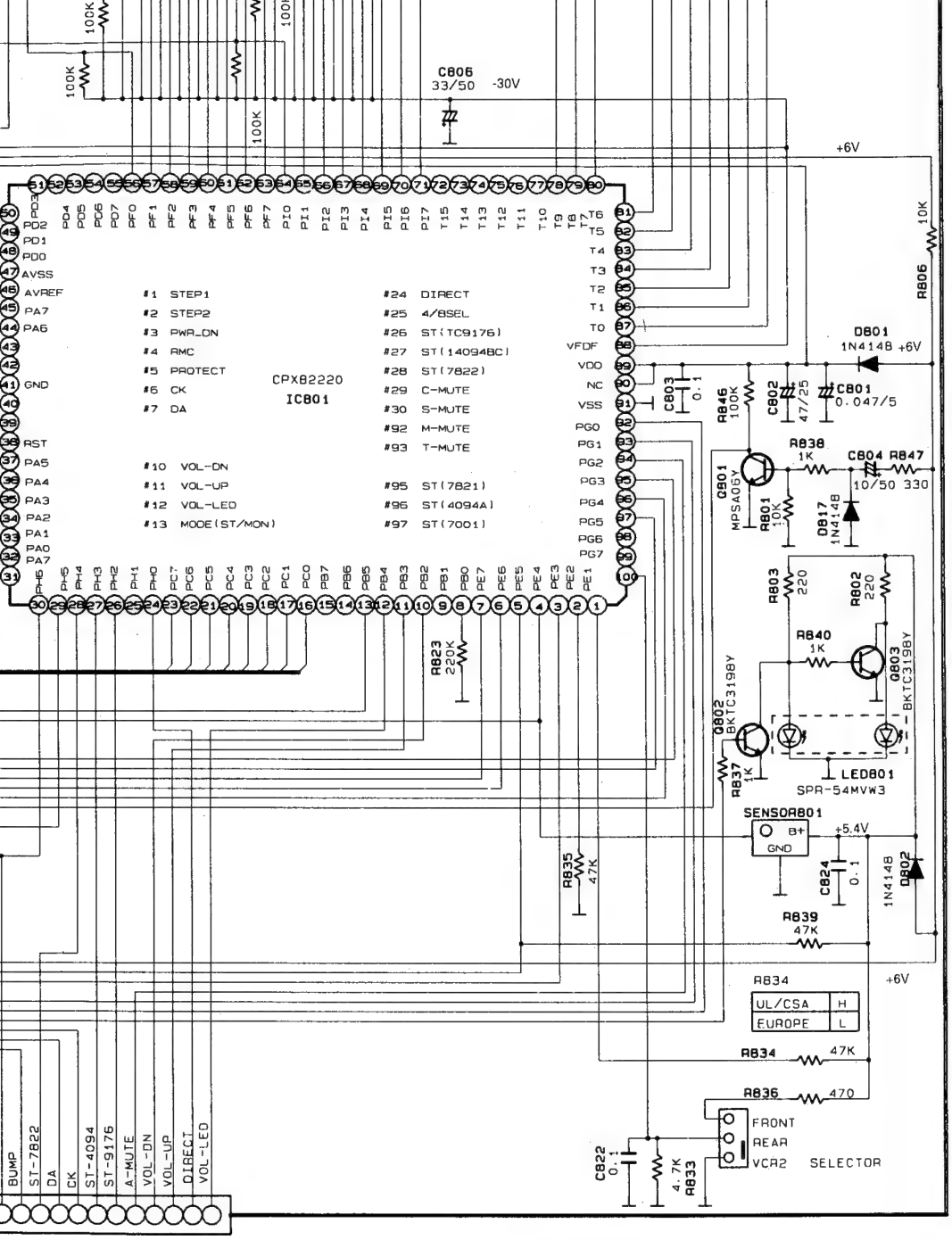


PIN CONNECTION DIAGRAM OF TRANSISTORS AND DIODES

DTA114YS **DTC114YS**	**MPSA06Y**	**SPR-54MDW3** **SLR40MG3**	**ZENER** **PX6A03** **IN5402** **IN4002** **IN4148**	**2SK168**	**KT** **KT** **KT** **KT** **KT**
					



2SK168	KTA1302 KTC2240/KTC3200 KTC3198/KTC1815 KTC1923/KTC3194 KTA1266/KTA1015Y	KV1236Z	KTC2229/KTC3206
			



E
6 1

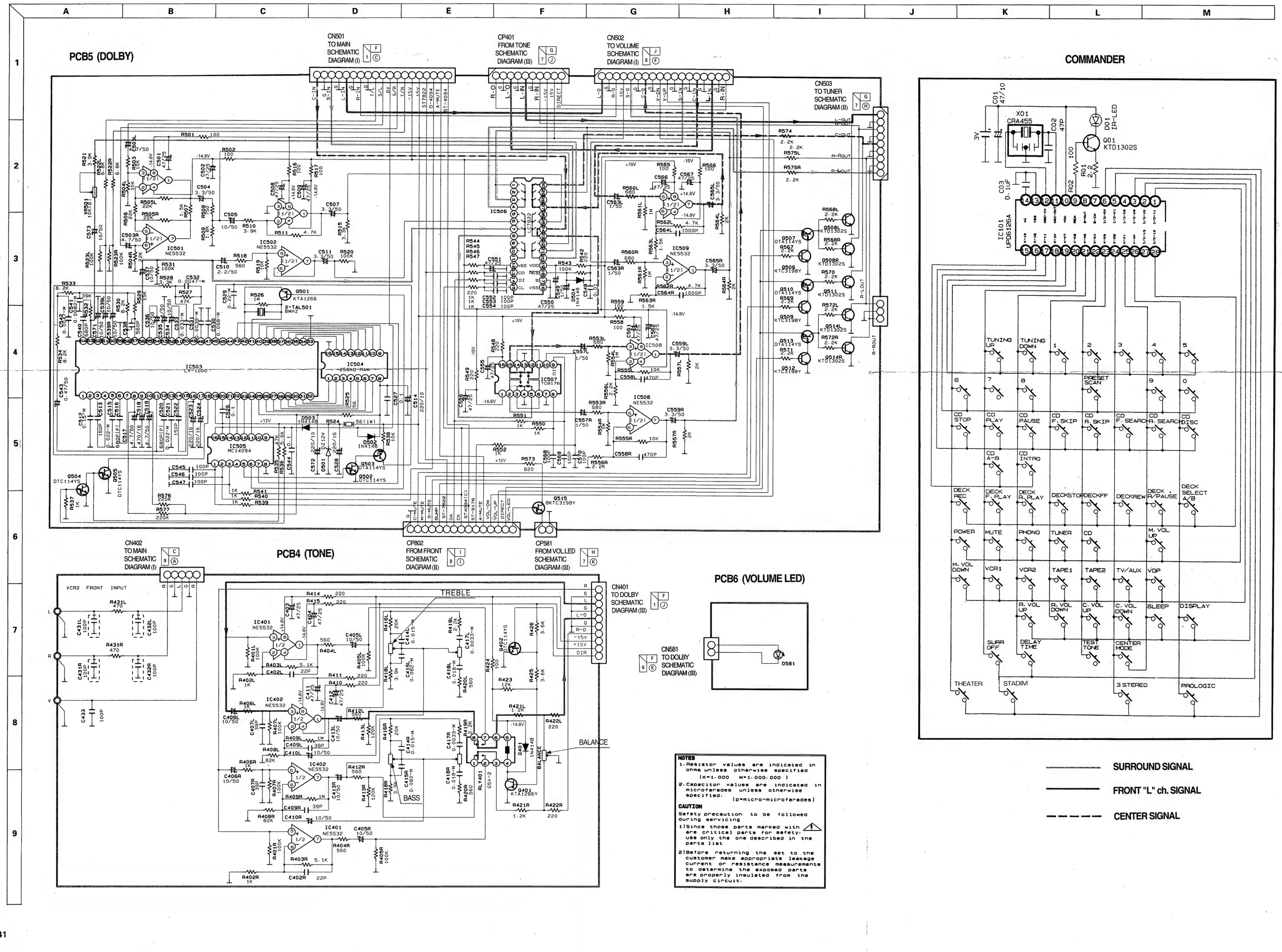
LBY
MATIC
AM (III)

AM SIGNAL

FM SIGNAL

TUNER "L" ch. SIGNAL

SCHEMATIC DIAGRAM III



NOTES

1. Resistor values are indicated in ohms unless otherwise specified (K=1.000 M=1.000.000)
2. Capacitor values are indicated in microfarades unless otherwise specified. (P=micro-microfarades)

CAUTION

Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety. use only the one described in the parts list

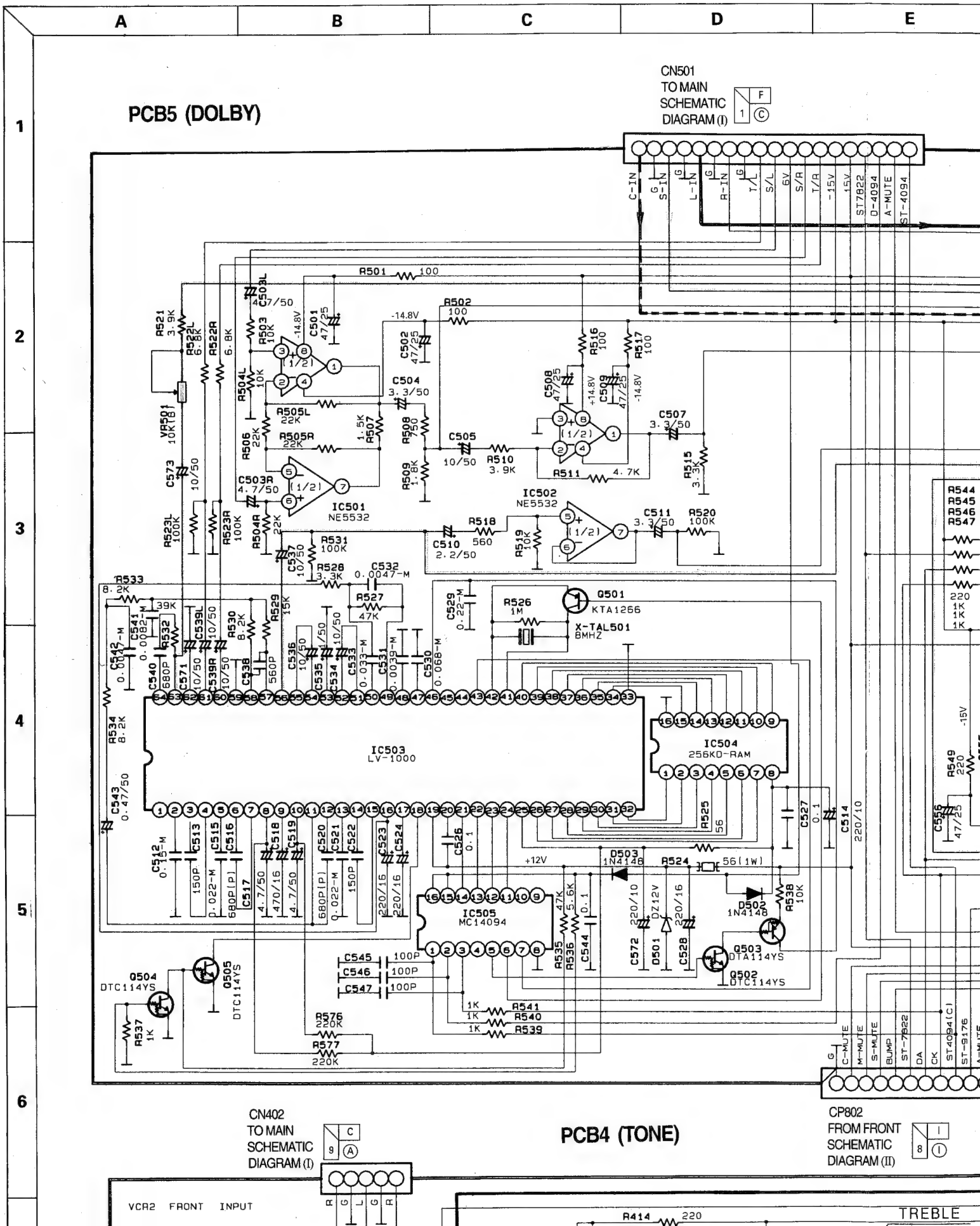
2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

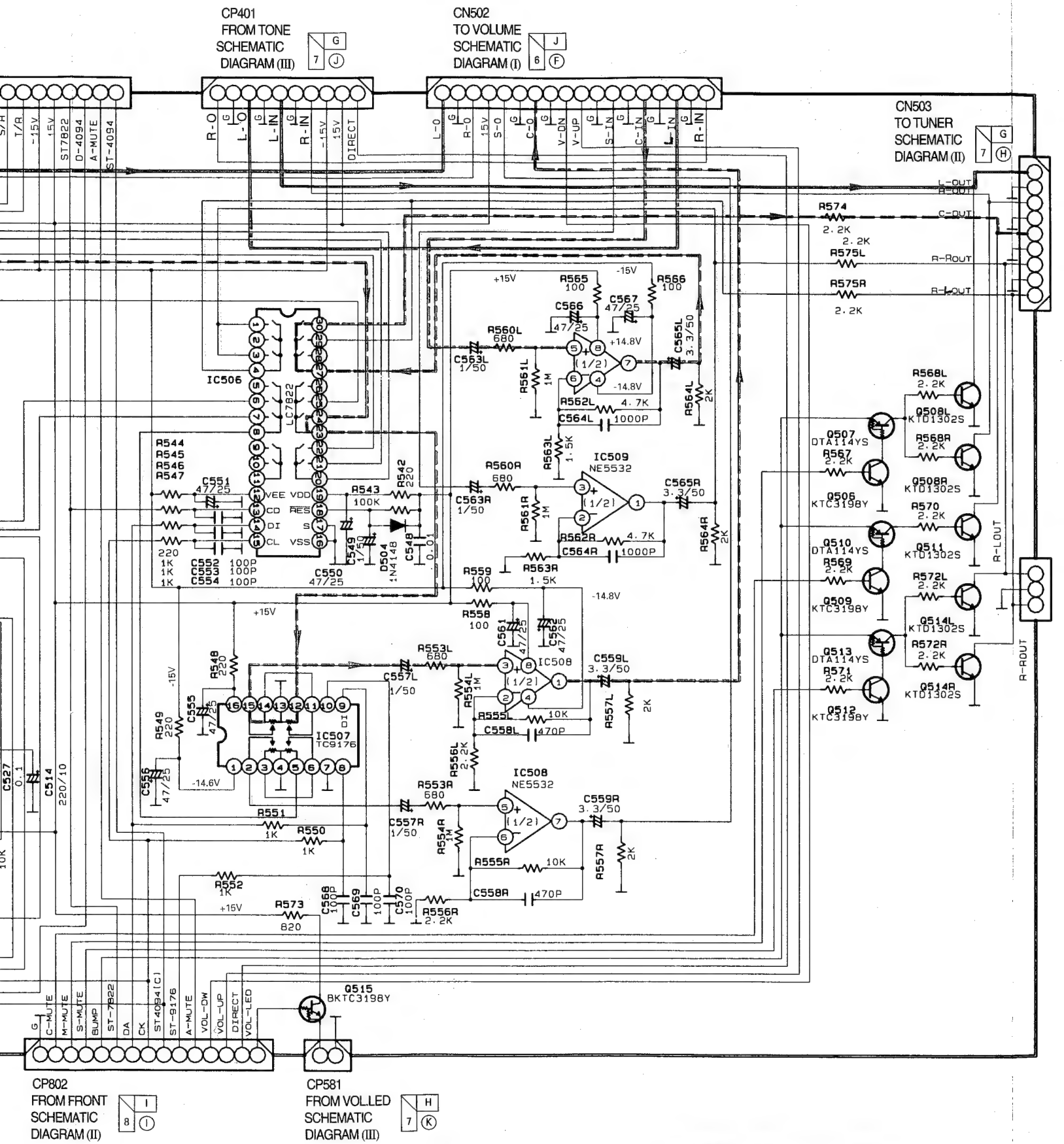
SURROUND SIGNAL

FRONT "L" ch. SIGNAL

CENTER SIGNAL

SCHEMATIC DIAGRAM III

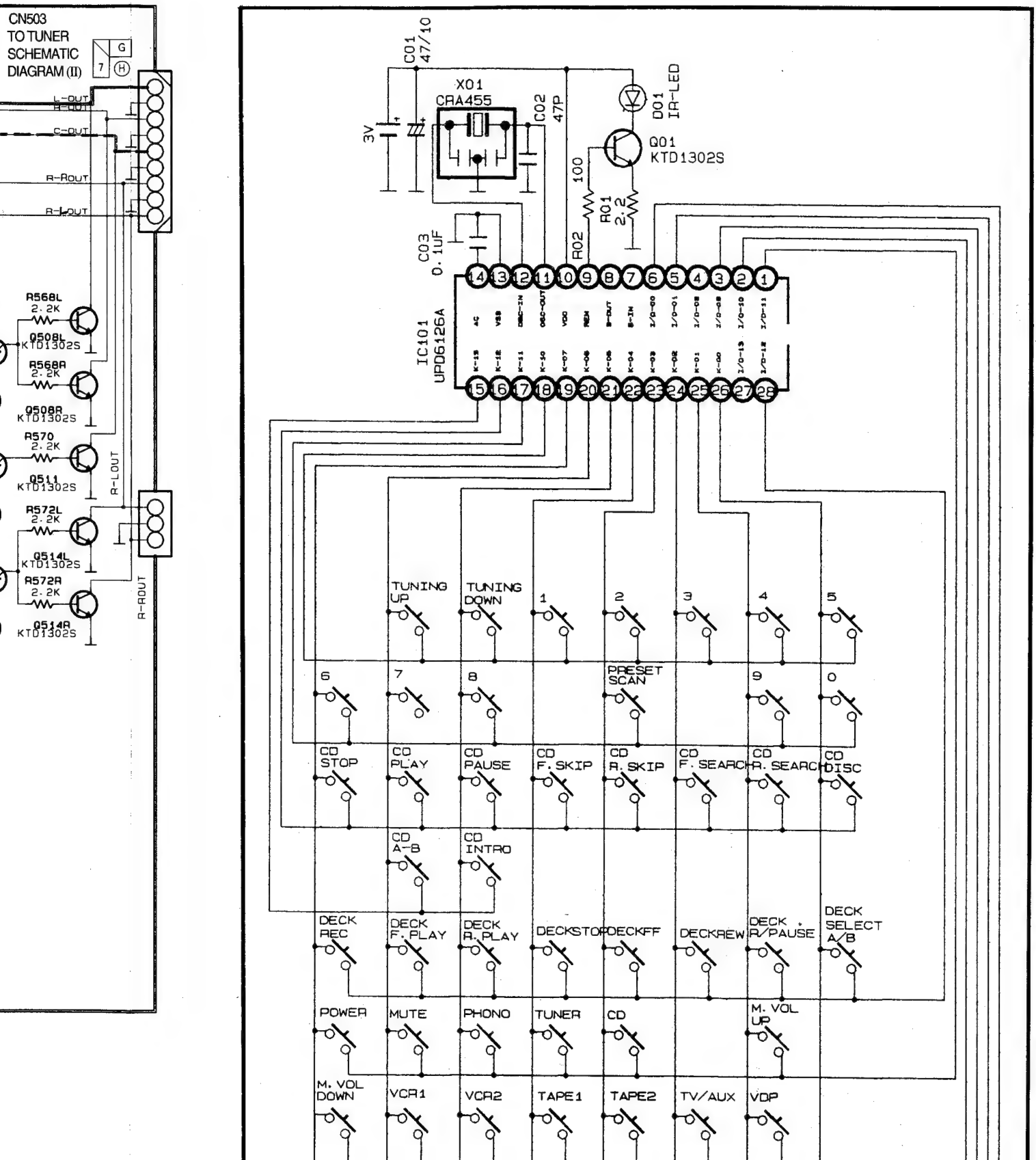


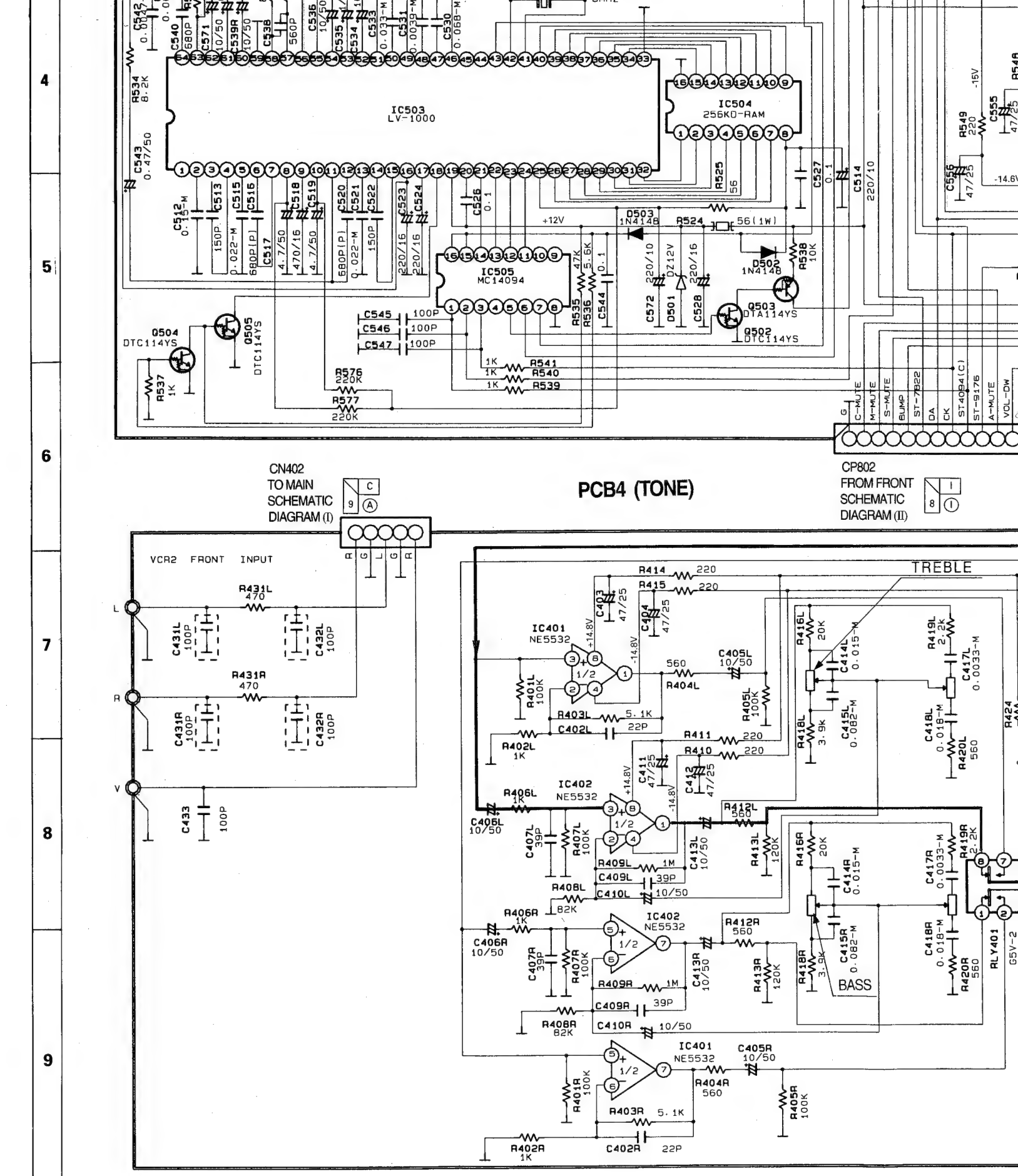


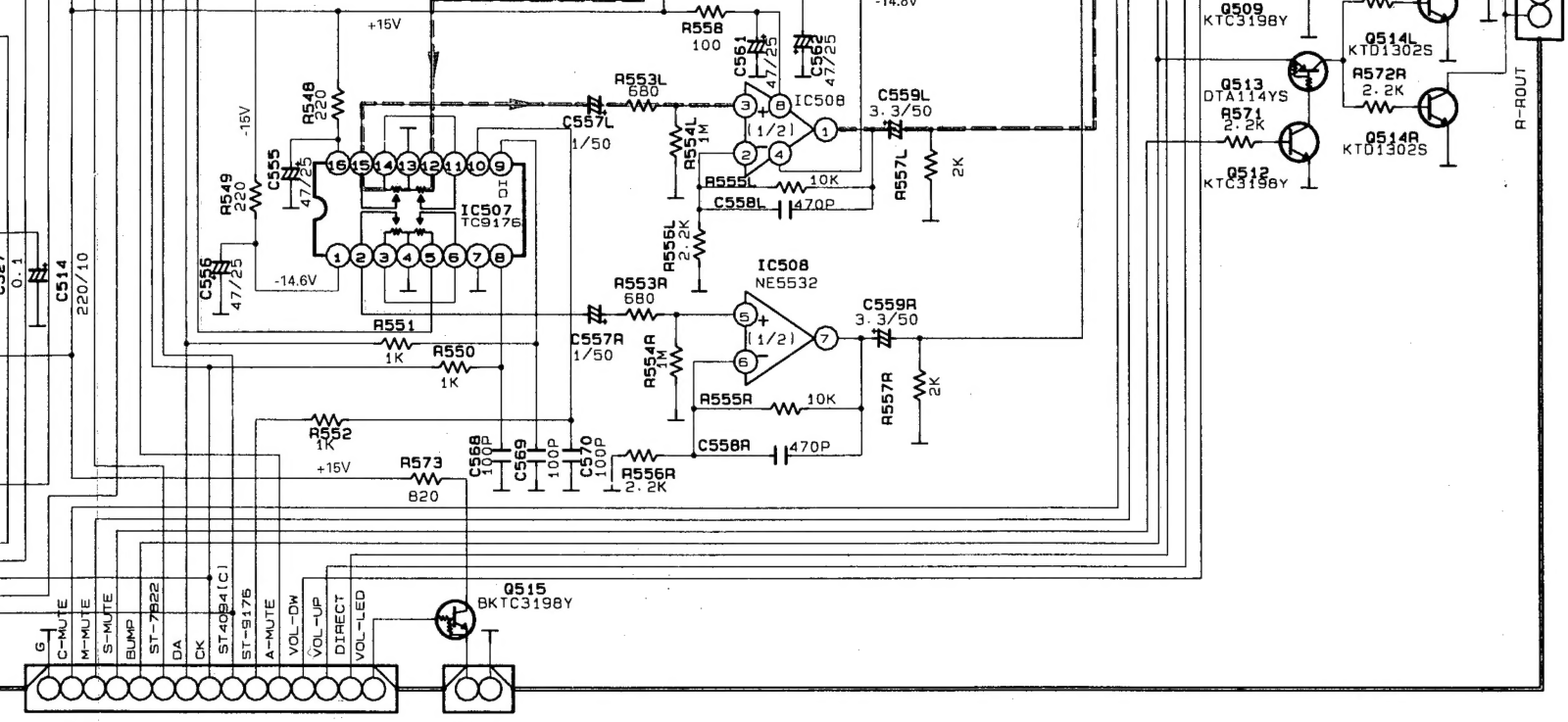
PCB6 (VOLUME LED)

I	J	K	L	M

COMMANDER




IC503
LV-1000
IC504
256KD-RAM
IC505
MC14094
D503
1N4148
D502
1N4148
D501
DZ12V
Q503
DTA114YS
Q502
DTC114YS
Q504
DTC114YS
Q505
DTC114YS
+12V
R524
56(1W)
R525
56
R576
220K
R577
220K
R541
R540
R539
C545
C546
C547
100P
C-MUTE
M-MUTE
S-MUTE
BUMP
ST-7822
DA
CK
ST4094(C)
ST-9176
A-MUTE
VOL-DW
CN402
TO MAIN
SCHEMATIC
DIAGRAM (I)
CP802
FROM FRONT
SCHEMATIC
DIAGRAM (II)
PCB4 (TONE)
VCR2 FRONT INPUT
TREBLE
BASS
IC401
NE5532
IC402
NE5532
RLY401

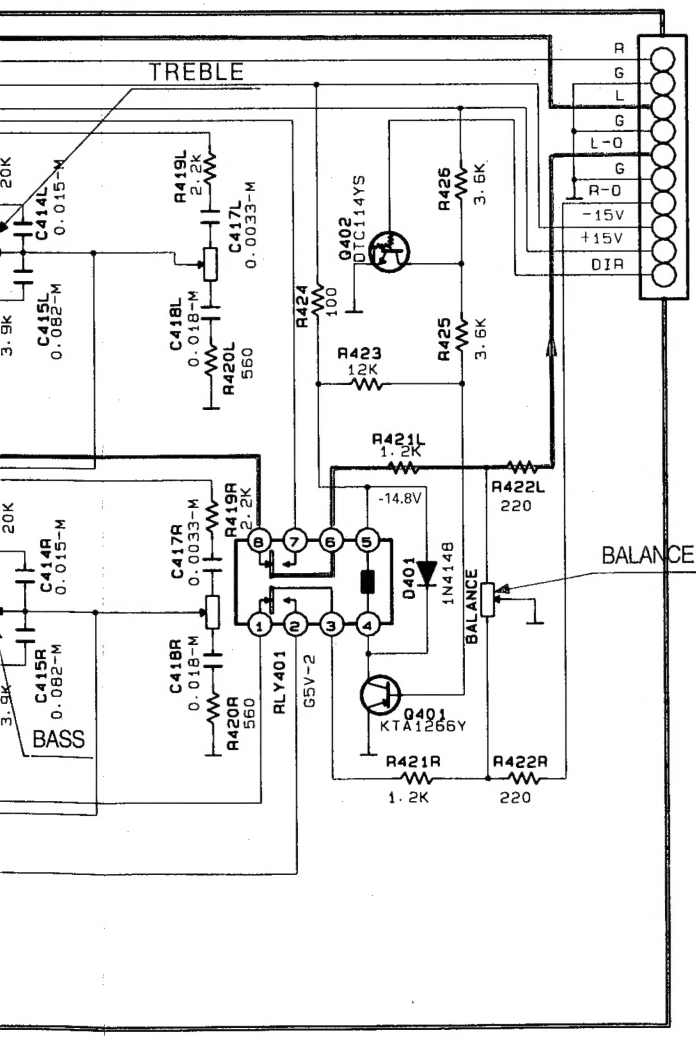


CP802
FROM FRONT
SCHEMATIC
DIAGRAM (II)

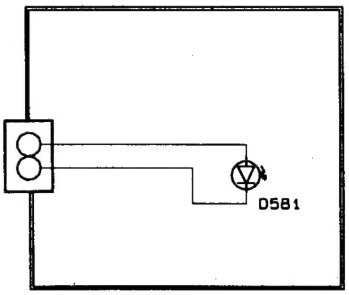
I
8 (I)

CP581
FROM VOL.LED
SCHEMATIC
DIAGRAM (III)

H
7 (K)



PCB6 (VOLUME LED)



CN581
TO DOLBY
SCHEMATIC
DIAGRAM (III)

F
6 (K)

NOTES

1. Resistor values are indicated in ohms unless otherwise specified
   [K=1.000 M=1.000.000]
2. Capacitor values are indicated in microfarades unless otherwise specified.
   [p=micro-microfarades]

CAUTION

Safety precaution to be followed during servicing

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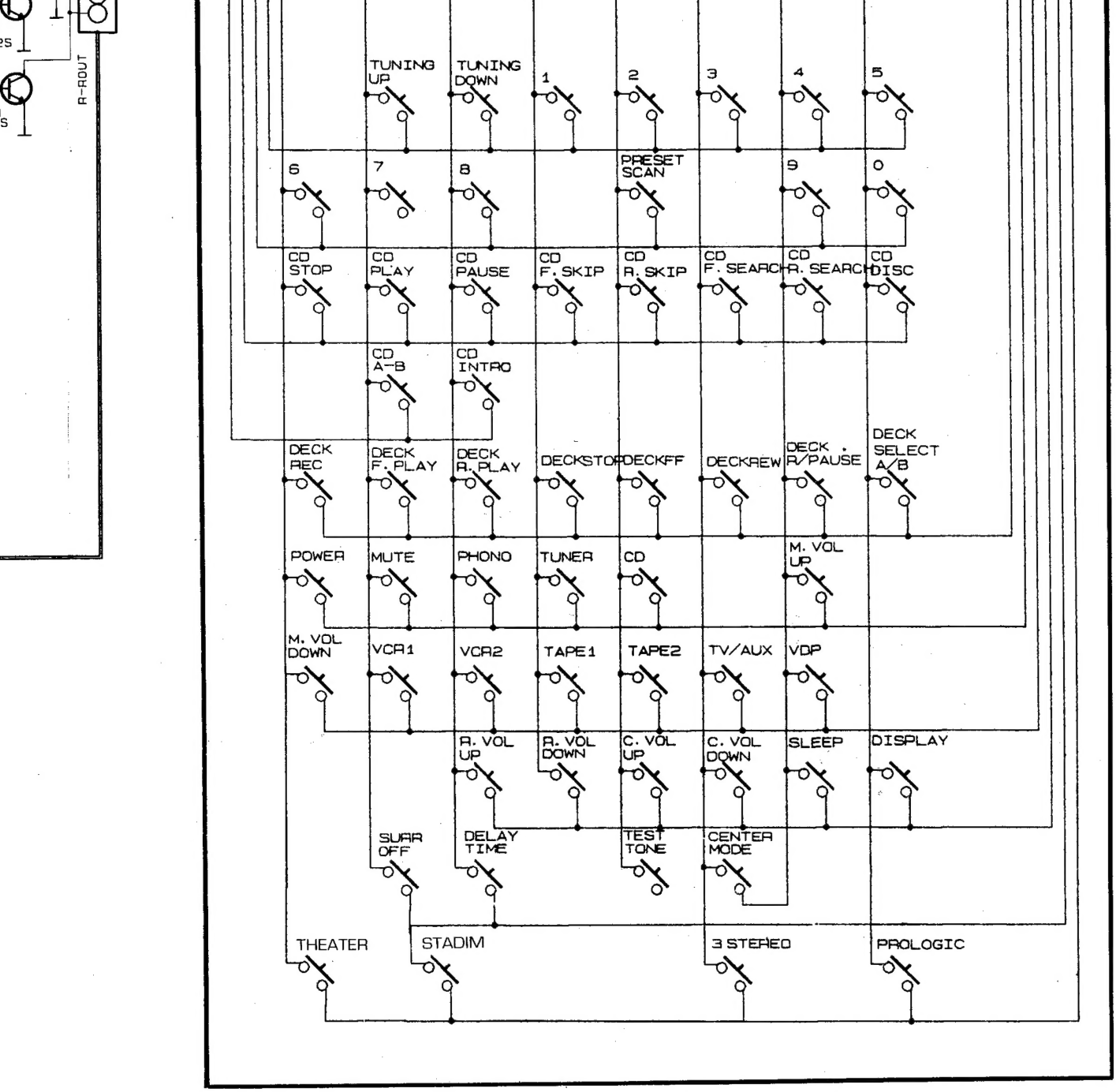
2] Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.



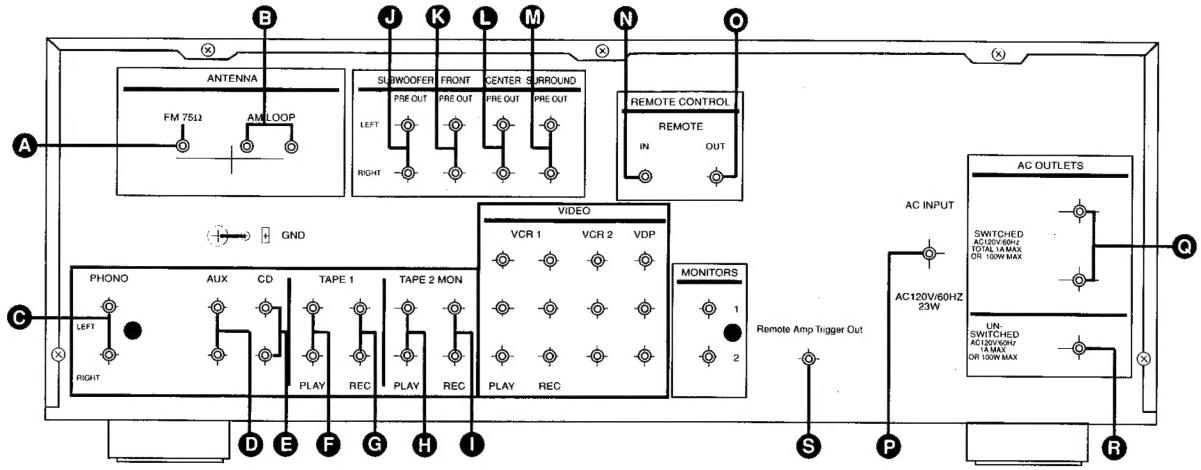
SURROUND SIGNAL

FRONT "L" ch. SIGNAL

CENTER SIGNAL

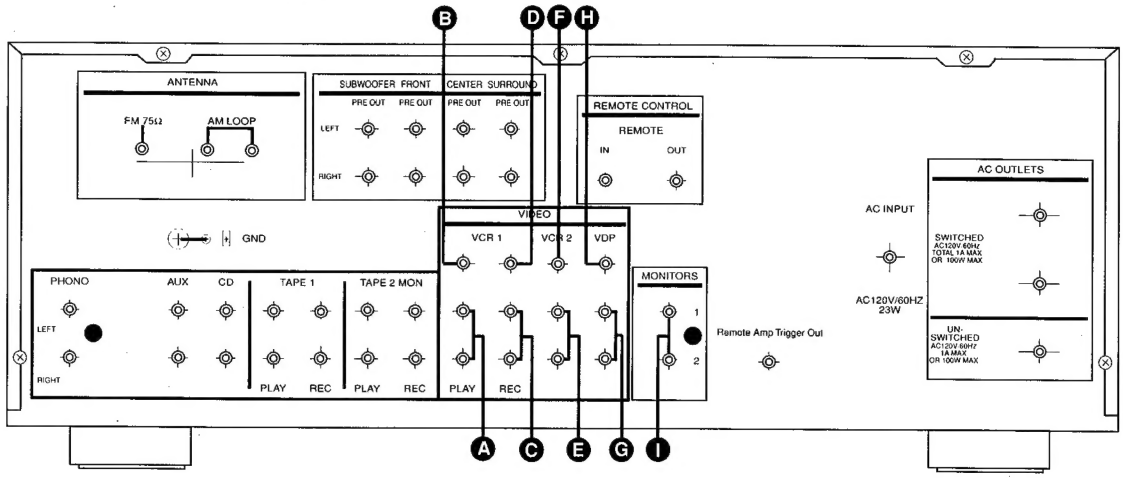
REAR PANEL CONNECTIONS

Rear Panel - Audio and System Connections



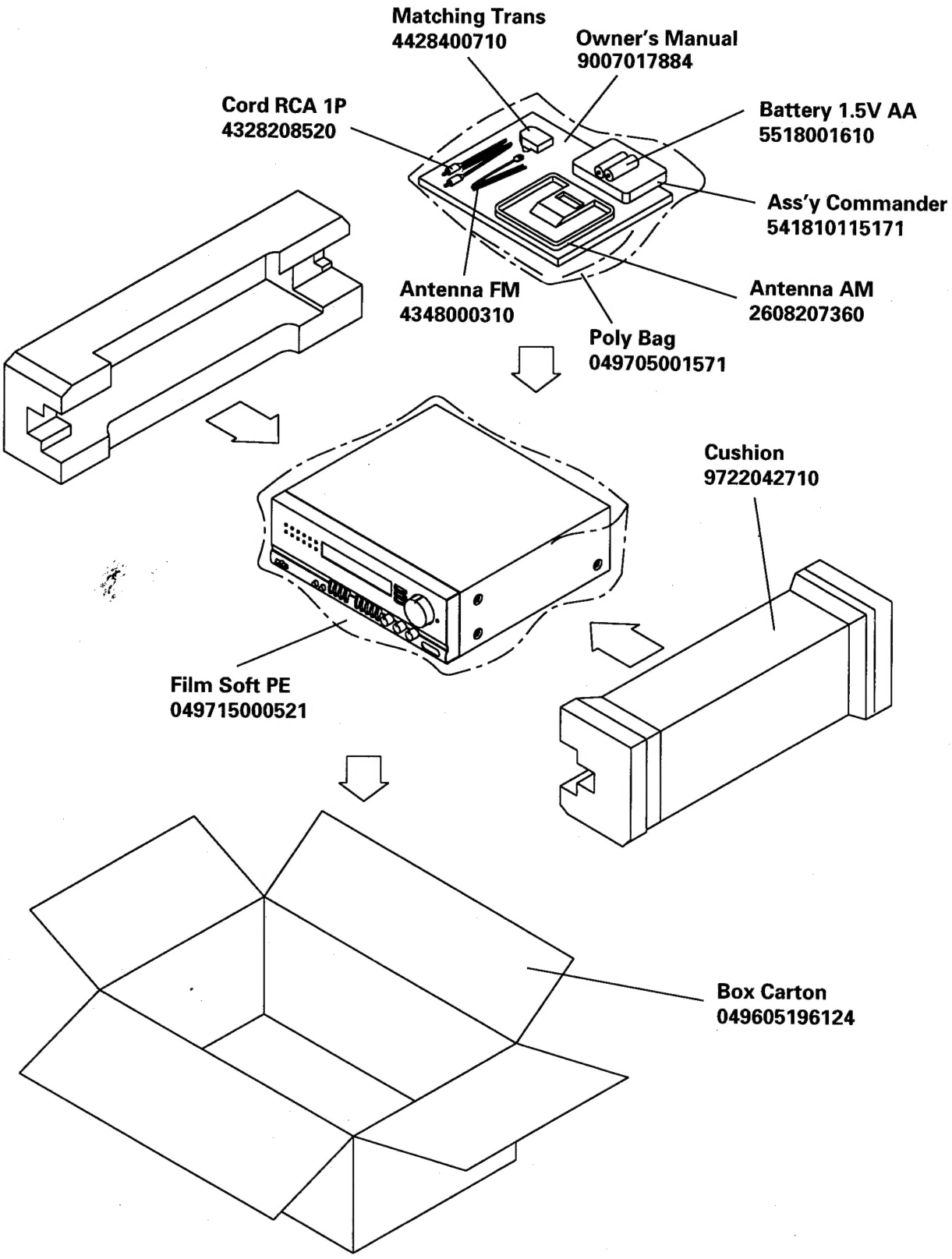
- **A** FM Antenna
- **B** AM Antenna
- **C** Phone In
- **D** Aux In
- **E** CD In
- **F** Tape1 In
- **G** Tape1 Out (REC)
- **H** Tape2 Monitor In
- **I** Tape2 Monitor Out (REC)
- **J** Subwoofer Pre-Out
- **K** Front Pre-Out
- **L** Center Pre-Out
- **M** Surround Pre-Out
- **N** Remote Control-In
- **O** Remote Control-Out
- **P** Power Cable
- **Q** Switched AC Outlets
- **R** UnSwitched AC Outlets
- **S** Remote Amp Trigger Out

Rear Panel - Video Connections



- **A** VCR1 Audio In (PLAY)
- **B** VCR1 Video In
- **C** VCR1 Audio Out (REC)
- **D** VCR1 Video Out
- **E** VCR2 Audio In
- **F** VCR2 Video In
- **G** VDP Audio In
- **H** VDP Video In
- **I** TV Monitor Out

PACKAGE


Matching Trans
4428400710
Owner's Manual
9007017884
Cord RCA 1P
4328208520
Battery 1.5V AA
5518001610
Ass'y Commander
541810115171
Antenna FM
4348000310
Antenna AM
2608207360
Poly Bag
049705001571
Cushion
9722042710
Film Soft PE
049715000521
Box Carton
049605196124